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The Cytological Diagnosis of Gastric Cancer

CHARLES D. ARMSTRONG, M.D., Menio Park; WILLIAM D. JOHNSON, M.D., and RICHARD S. WILBUR, M.D., Palo Alto; and ARTHUR J. LACK, M.D., San Mateo

CANCER OF THE STOMACH, although declining in incidence, still accounts for approximately 7.8 per cent of cancer deaths in the United States, and the five-year survival rate after surgical operation for this condition, if patients with lymph node metastasis at the time of operation are included, is only 5 to 12 per cent. Without metastasis, subtotal gastric resection may produce five-year survival rates of 40 to 50 per cent.⁶ The vital importance of new methods for early diagnosis is evident.²⁶

It is fortunate that surface cells are readily desquamated from early carcinoma, either because there is less cement substance in malignant tissue, because growing cells beneath push them off or because there is necrosis which allows them to fall free. ¹⁷ Methods by which the presence of these cells is detected are capable of identifying extremely small and early lesions before they are grossly apparent to the surgeon or pathologist ¹¹ and at a time when they would completely elude diagnosis by clinical means.

METHODS

The techniques and applications of exfoliative gastric cytology have been recently reviewed* and an excellent monograph on the subject has been written by Shade.²¹ A review of reported methods²⁷

 Established centers find that cytological study of gastric washings with saline or chymotrypsin, adequately performed, is a valuable diagnostic tool in the detection of early and curable gastric carcinoma.

Our experience with a small series of 150 patients, studied by saline gastric washing, has emphasized the difficulties of collection and the particular importance of obtaining, by repeated washings if necessary, an adequate specimen of gastric epithelial cells for diagnosis, before an opinion is given.

It seems likely that the cytological method will be of future value in study of the natural history of gastric malignant disease and in detection of its surface lesions in their earliest form in asymptomatic, known-susceptible persons. Further, it should become a complementary part of the "stomach profile" in gastric diagnostic problems, where roentgenologic and gastroscopic studies may be expected to reveal the older, ne crotic, or infiltrative lesions; cytological study, the earlier and more superficial stages of disease.

indicates that desquamated cells usually may be obtained by simple washing of the stomach with normal saline solution. All investigators have noted that a standardized, meticulous collection technique, performed by a dedicated person, is an important factor in success.

It is important to recognize that tumor cells are usually not exfoliated in a recognizable form from carcinomas which have become necrotic or ulcerated, even though these tumors may be so extensive that they are readily diagnosed by x-ray or gastroscopy. 4.16,18

With the technical assistance of Grace G. Smith, M.D., and Paul H. Jewett.

Chairman's Address: Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

^{*}Reference Nos. 2, 5, 8, 9, 16, 19.

		Diagnosis by							
			X-ray		C	ytologie Stu	dy		
Number of Patients	Final Diagnosis	Diagnosis Uncertain	Malignant (Proved Benign)	Identified as Benign	Opinion Deferred†	False Positive	Identified as Benign		
18	Benign ulcer	7	3	8	5		13		
2	Gastric polyp	****	1	1	****	****	2		
3	Chronic gastritis	2		1	1	****	2		
3	Miscellaneous benign gastric conditions	2	****	1	1		2		
3	No gastric disease	1	****	2	2	****	1		
		-		-		_			
29	Total cases	12	4	13	9	0	20		
†Specimen	Per cent of cases	41	14	45	31	0	69		

A skilled cytodiagnostician may examine one slide in 20 minutes, or six slides in two hours. The full time is required before a slide can be pronounced negative; a positive diagnosis can often be made after brief examination.

REPORTED RESULTS

Shade²⁰ reported that very superficial infiltration existed in 31 of 258 cases of carcinoma observed by him; and, of these, 18 were entirely unsuspected clinically and radiologically, and the diagnosis depended solely upon positive cytological findings.

False-negative results of cytological examinations are due to a failure to obtain or identify cancer cells in the smear and are frequently associated with the presence of gastric retention, submucosal tumor, or surface necrosis or ulceration of a tumor.²⁵ On the other hand, studies at established cytological centers have become so accurate that a negative report must be seriously weighed in the differential diagnosis of benign and malignant ulcers.^{2,21}

Cytological false-positive is so infrequent that a positive report, particularly if repeated, is a valid indication for laparotomy.²² The abnormal cell associated with healing gastric ulcer,¹⁶ chronic gastritis, gastric atrophy, gastric polyposis, and the mucosal changes of pernicious anemia before cyanocobalamin treatment^{14,17} have sometimes been misinterpreted, Malignant cells have been found in the gastric aspirate in cases of carcinoma of the gall-bladder⁷ or pancreas,¹²

Experienced observers are unanimous in recommending the cooperative use of all available methods in the diagnosis of gastric carcinoma. McHardy¹⁵ expressed belief that earlier diagnosis may be achieved through an awareness of the importance of vague symptoms, achlorhydria remaining after administration of histamine, and the early use of cytological study. He cited a diagnostic accuracy of 95 per cent for competent cytodiagnosis, 95 per cent for radiological surveys in selected hospitals, 88 per cent for ambulatory x-ray screening, and 77 per cent for gastroscopy, performed with skill. It seems

reasonable to assume that less than 5 per cent of early, operable gastric carcinoma should escape detection if all of the available methods, including cytology, are used skillfully and repeatedly.

USES OF GASTRIC CYTOLOGICAL STUDY

As the study of gastric cells is most applicable to detection of early and superficial gastric carcinoma, it was inevitable that it should be applied to screening processes. ¹⁵ In this respect special attention has been paid to certain groups found to have a higher than ordinary incidence of gastric cancer—for example, persons having Type A blood, ^{1,10} pernicious anemia, ^{9,11} a family history of gastric cancer, ⁵ or achlorhydria persisting after the administration of histamine. ^{3,12} The high incidence of gastric cancer among the Japanese qualifies them for special attention.

The method may also be used to identify postoperative recurrence of carcinoma in the stomach,²⁴ or to confirm the gastric origin of a neoplasm which is evident only by metastatic lesions.¹³

Ideally, cytological examination will take its place as an element in the construction of a "stomach profile" which will combine information from clinical, radiological, and gastroscopic sources with the analysis of acid production after histamine, and eventually with data on the uptake of radioactive phosphorus by the gastric mucosa²³ and the biochemical and metabolic concomitants of mucosal disease which are now coming under investigation.

PRELIMINARY REPORT ON PRESENT SERIES

Methods

An Ewald tube, lubricated with glycerin or watersoluble jelly, was introduced into the stomach after an overnight fast. No premedication was given unless gastroscopy was to be performed. Two hundred cc. of normal saline solution at room temperature was introduced with moderate force and the patient was immediately rolled prone and on each side, ending in the left lateral decubitus position with the

									Diagnostic Method	P	
										Cytologie Study	e Study
Case	Age	Sex		Character of Lesion	Histological Proof	Castrie	Castrie	X-ray	Сантловеору	By WDJ	By AJL
1	06	F Aden	Adenocarcinoma, antru	antrum. No metastasis.	Yes	None	None	M	Not done	Def.	Pos.
2	26	F At o	At operation 2 months curvature with huge ulcer.	months after cytologic study: Adenocarcinoma, lesser ge ulcer.	Yes	Z	None	Improved on medication Rx	Not done	Neg.	Neg.
8	43	M Aden	nocarcinoma, fund	Adenocarcinoma, fundus. Metastasis. Congenital gastric cysts.	Yes	Г	None	B	B (polyposis)	Pos.	Neg.
4	81	F Aden	Adenocarcinoma, antru	antrum. Metastasis.	Yes	r	None	M	Not done	Pos.	Pos.
5	82	M Aden	Adenocarcinoma, antru	antrum. Metastasis.	Yes	Н	Yes	M	Not done	Def.	Neg.
9	82	F Aden	Adenocarcinoma, antru	antrum. Metastasis.	Yes	Г	Yes	M	Not done	Def.	Neg.
2	74	F Aden	Adenocarcinoma, poste	posterior wall, Metastasis.	Yes	Г	Yes	U	Not done	Neg.	Neg.
80	49	F At o	At operation I month	At operation 1 month after cytologic study: Impression, primary car- cinoma cardia with metastasis. Biopsy-liver fibrosis.	No Died 6 months	Z	None	В	B Gastritis with ulcer	Neg.	Neg.
6	75	F No o	peration. Carcinor	No operation. Carcinoma, fundus, with small ulceration.	No	None	None	M	Unsatisfactory (obstruction)	Pos.	Neg.
10	73	F No o	No operation. Carcinoma, fundus.	ma, fundus.	No Died 1 month	None	None	M	Not done	Pos.	Neg.
11	833	F At of	At operation 6 months plastica). Metastasis.	At operation 6 months after cytologic study: Anaplastic carcinoma (linitis plastica). Metastusis,	Yes	None	None	В	Uncertain (lymphosarcoma not	Neg.	Neg.
	P	Per cent of carcinoma	0	liagnosed by x-ray, 55; per cent diagnosed by cytologic study, 45; per cent diagnosed by combined x-ray and cytologic study, 73.	udy, 45; per ce	ent diagn	osed by con	nbined x-ray an	d cytologic study,	, 73.	
N=Normal. L=Low. H=High.	al,	M=M B=Ber	M=Malignant, U	U=Uncertain—Specimen adequate but pathologist unable to decide. Def. = Deferred—Specimen inadequate to permit forming an opinion.	decide. opinion.	*Repea	t cytology size	Repeat cytology six months later, whe gastroscopy and x-ray, was also negative.	Repeat cytology six months latter, when malignant disease was obvious by gastroscopy and x-ray, was also negative.	ease was of	ovious by

head low. The wash material was drained from the stomach by gravity and manipulation of the tube, which was then withdrawn,

The lavage fluid was quickly poured into 50 cc. plastic centrifuge tubes and spun at 5,000 rpm, for 3 minutes in a Serval-type SP angle centrifuge brought to the patient's bedside. Cell buttons were smeared on 4 to 8 uncoated glass slides which were immediately immersed in ether and alcohol solution. Seven to ten minutes elapsed between the introduction of the saline solution into the stomach and fixation of the slide. In some cases, the sediment was suspended in Bouin's solution, and later embedded in paraffin block for examination.

Selection of Patients

Almost all the patients in this series had gastrointestinal symptoms. Four patients with proven pernicious anemia were referred for periodic screening studies. The lavages were done at a number of places between April 1958 and February 1961. One of us (WDJ) examined all slides and all of the cell blocks in the cases in which they were prepared. Slides prepared from patients at the San Mateo Community Hospital were divided at random into two sets, each of which was examined independently by a pathologist (WDJ or AJL).

Preliminary Results

One hundred and fifty-five gastric lavages were performed on 150 patients. The average duration of follow-up by February 1961 was six and a half months, with a range from 0 to 34 months. Gastroscopy was performed in 78 cases. All but three patients had upper gastrointestinal x-ray examination at approximately the time of cytological study; these examinations were performed by a number of radiologists and the radiological opinion recorded is that which was expressed at the time of the cytological study, even if after subsequent films the opinion was changed.

In the series of 44 cases in which two sets of slides were made from the same material, there were five cases of proven gastric carcinoma. Both pathologists identified one of these; in a second, one examiner found malignant cells in his material, while the other was unable to find such cells in his set of slides either at the first examination or upon review. No malignant cells were found by either observer in slides from three patients, two of whom had pronounced gastric retention, the other having a large area of ulceration superimposed upon the carcinoma.

In the series of 150 patients, 139 were considered to have either benign gastric lesions or none at all. Histological evidence of benignity was obtained in 29 cases (Table 1).

Eleven of the patients were classified as having gastric carcinoma (Table 2). Histological proof was present in eight, and laparotomy in another revealed what was thought to be extensive metastatic carcinoma originating in the stomach, although liver nodule biopsy showed only "fibrous tissue." This patient and two others were presumed to have gastric carcinoma with widespread metastasis, although histological proof was not obtained either before or after death.

Seventy-six patients underwent gastroscopy and roentgenologic and cytological studies. The diagnostic performance of these methods in the cases in which they were used is summarized in Table 3. In the 76 patients studied by all three methods, disagreement was noted between the initial diagnostic opinion and the ultimate diagnosis in 12 cases, which are outlined in Table 4.

Six of the patients had decided gastric retention at the time the specimens were taken. In these cases, only the specimen taken after constant Levine tube drainage was satisfactory, and three of the falsenegative results were associated with gastric retention.

In 65 cases Bouin's paraffin block preparations were made of the cell button remaining after the smears had been made. Comparison of results of

TABLE 3.—Overall Diagnostic Performance of X-ray, Gastroscopy and Cytologic Study in 150 Cases

			Perce	ntage	
Method	Number of Cases	Correct	False Positive	False Negative	Uncertain
Cytologic Stu	dv 150	90.7*	0	4.0	5.3*
X-ray	147	62.0	5.4	2.0	30.6
Gastroscopy	78	82.1	3.8	2.6	11.5†

*Opinion was originally deferred in eight cases.

†Examination unsatisfactory or diagnosis uncertain.

smear examination with results of examination of the material in the block emphasized that it is difficult to thoroughly sample cellular material and that smears might fail to show gastric epithelium which was present in the larger specimen.

1111 University Avenue, Menlo Park (Armstrong).

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TABLE 4.—Gastric Lesions Studied by X-ray, Gastroscopy and Cytologic Study (Follow-up of 12 Cases)

		Diagnosis		
Case No.	X-ray	Gastroscopy	Cytologie Study	Diagnosis on Follow-up
1	M	N	. I	No apparent malignancy 8 months (clinical)
2	M	N	I	Normal stomach (surgical biopsy)
3	M	M	I	Benign ulcer (surgical resection)
4	M	M	I	Benign ulcer (surgical resection)
5	В	В	v	Gastric adenocarcinoma (surgical resection 1 week later)
6	U	U	I	Benign ulcer (surgical resection)
7	U	U	Deferred*	Benign ulcer (postmortem)
8	U	U	Deferred	Inflammatory infiltrate of stomach (surgical resection)
9	В	В	I	Apparent gastric carcinoma with metastases (surgical exploration 1 month later)
10	U	U	I	No apparent malignancy 13 months (clinical)
11	U	M	I	No apparent malignancy 10 months (clinical)
12	В	U	I	Anaplastic gastric carcinoma with metastases—linitis plastica (surgical biops 6 months later)

M=Malignant, B=Benign, N=Normal

U=Uncertain-Specimen adequate but pathologist unable to decide.

*Specimen inadequate to permit forming an opinion.

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The Fibrinolytic Enzyme Defect of Hyaline Membrane Disease

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PULMONARY HYALINE MEMBRANE formation is the most frequently observed pathologic process in infants dying neonatally, but is the most poorly understood disease entity affecting this age group. Clinically, this condition is manifested by the development of signs of respiratory distress soon after birth and resulting in death within 4 to 48 hours. At autopsy the lungs are atelectatic and contain distended alveoli and alveolar ducts which are lined by eosinophilic hyaline membranes (Figure 1).

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· An investigation of the pulmonary fibrinolytic enzyme system in 31 infants who died with hyaline membrane formation was reviewed. There was complete lack of plasminogen activator activity in the lungs of 84 per cent of these infants. This phenomenon was shown to result from an abnormal inhibitor. A comparable inhibitor was found in normal placental tissue, and it is postulated that this inhibitor is released into the circulating blood as the result of placental infarction. Fibrin, a basic component of the hyaline membrane, is probably precipitated from a physiological capillary transudate associated with the formation of amniotic fluid by the lungs. The presence of an inhibitor of fibrinolysis would then result in the accumulation of intrapulmonary fibrin and the formation of hyaline membranes.

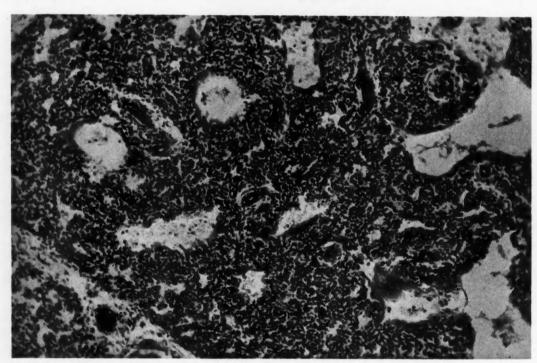


Figure 1.—Photomicrograph of lung (×100) demonstrating typical appearance of hyaline membrane disease in the newborn. At lectatic areas are interspersed with dilated alveoli and alevolar ducts lined by an eosinophilic staining hyaline membrane.

Until the fluorescent antibody studies of Gitlin and Craig¹¹ and the studies of van Breeman with the electron microscope, ¹⁹ the exact composition of these membranes was unknown, and it was widely believed that the membranes represented protein precipitated from aspirated amniotic fluid. These investigators, however, demonstrated rather conclusively that the membranes were composed primarily of fibrin and resembled a plasma clot. Since amniotic fluid is known not to contain fibrinogen or fibrin, the only potential source of fibrinogen in the lungs would be from a capillary transudate.

The cause of the pulmonary capillary transudate believed to predispose to hyaline membrane formation is receiving much attention. One concept, reviewed by Smith,17 is that it is a manifestation of left heart failure, with the hyaline membranes resulting as an end stage of pulmonary edema. Avery and Mead⁶ suggested that the lack of a surface-tension lowering substance from the lungs causes pulmonary atelectasis which in turn promotes pulmonary congestion and edema, and so predisposes to hyaline membrane formation. Experimental studies of hyaline membrane formation in animals indicated that pulmonary edema can lead to the development of hyaline membranes, since most of the techniques utilized for the experiments were actually aimed at promoting pulmonary edema.9 However, this should not necessarily imply that the majority of human infant deaths due to pulmonary hyaline membranes are the result of heart failure or pulmonary congestion, since clinical and pathologic evidence is lacking in many of these cases.

Concepts regarding the pathogenesis of hyaline membrane disease must explain the close association of the disease with prematurity and maternal diabetes mellitus. Cesarean section is also thought to increase the incidence of hyaline membrane formation, although it appears that the culpable factor is the maternal complication leading to emergency cesarean section. Other aspects of the disease that are yet to be explained concern the fact that air breathing is a requisite to the appearance of membranes, and the apparent spontaneous regression of the disease in many instances in which it is suspected clinically.

During an investigation of pulmonary fibrinolytic enzymes, the lungs of most infants succumbing to hyaline membrane disease were found to lack plasminogen activator activity completely. ¹² Inasmuch as the hyaline membrane was known to consist primarily of fibrin, this observation was considered to be of significance and a study of this enzyme defect was continued. The purpose of the present report is to review these studies of a defect in fibrinolytic enzymes in the lungs of infants with hyaline mem-

brane formation, and to describe a new concept of the pathogenesis of this disease which can account for most of its characteristics.

The Tissue Activator of Plasminogen

The fibrinolytic enzyme system of the human organism is complex and consists of a circulating active enzyme, plasmin or fibrinolysin; its inactive precursor, plasminogen or profibrinolysin; and a number of blood and tissue activators and inhibitors.4 The tissue activator of plasminogen appears to have a more localized function than has the widely circulating plasma activator, although it is thought that the activator from tissue can produce circulating fibrinolytic activity. The tissue activator is thought to function in the removal of blood clots or other pathologic fibrin deposits from tissue parenchyma. 1,18 It is thermostable and relatively insoluble and can thus be differentiated from the activator of plasminogen in blood which is heatlabile and water-soluble. The activator in tissues can be extracted quantitatively by the use of potassium thiocyanate (KSCN).5 More recent studies have demonstrated that saline extracts of the tissues also contain activator activity, and it is believed that the activity in the saline extracts may reflect the immediate availability of the plasminogen activator to the organism.2

Plasminogen Activator Activity of Normal Lung

Plasminogen activator activity can be detected in the lungs of fetuses as early as the third month of gestation.12 Of 148 fetuses that died perinatally without pulmonary hyaline membranes, only 16 lacked demonstrable enzyme activity in their lungs. 12-14 It is apparent that the enzyme appears quite early during fetal development and is present in the majority of lung specimens. However, the appearance of the plasminogen activator fraction that is soluble in saline may be subject to a developmental delay.13 inasmuch as it was absent in the majority of fetuses weighing less than 1,000 grams, but present in 88 per cent of those weighing over 1,500 grams. If the presence of saline-soluble enzyme activity does reflect the immediate availability of plasminogen activator to the organism, then many premature infants may be incapable of handling intrapulmonary fibrin deposits effectively.

Plasminogen Activator Activity of Lungs with Hyaline Membranes

A total of 31 lung specimens from infants who died neonatally with hyaline membrane formation were studied.^{13,14} The infants ranged in weight from 560 to 3,910 grams; 81 per cent were considered to be premature (less than 2,500 grams in weight). The earliest death occurred two hours after birth, and the latest five days after birth.

Plasminogen activator activity was completely lacking in 26 of the 31 specimens. The five infants with enzyme activity were not unusual in any way except that four of them weighed less than 1,500 grams and in the fifth hyaline membrane formation occurred in the presence of severe pulmonary edema. Two of these four infants under 1,500 grams were tested for the presence of saline-soluble activator and were found to be lacking such activity.

Nature of enzyme defect. The enzyme defect apparent in 84 per cent of the lungs with hyaline membrane formation could result from either the presence of an inhibitor or the primary absence of the activator itself. Two methods were used for exploring this problem. The presence of an inhibitor was investigated by studying the effect of various fractions of a lung homogenate upon the enzyme activity of a normal lung homogenate. 13,14 Mixing a homogenate of hyaline membrane lung with normal lung homogenate caused pronounced inhibition of the normal activity in 19 of 23 cases studied. The second method was to extract the lungs with KSCN as described by Astrup and Albrechtsen,5 thereby separating any activator from its inhibitor and enabling its activity to become apparent. Kscn extraction of 14 lung specimens with hyaline membranes revealed underlying plasminogen activator activity in every case, thus indicating that the enzyme was present but completely inhibited.13 Consequently, it appears that the defect results from the presence of an abnormal inhibitor and not from a lack of activator.

Characteristics of the abnormal inhibitor. Certain basic characteristics of this abnormal inhibitor came to light during this investigation. The inhibitor tended to adhere to the particulate matter containing the insoluble activator and could not be separated from the particulate matter by repeated washings with saline solution, although it could be separated by KSCN extraction. 13 Various proteolytic enzyme inhibitors are known to lack specificity and to be capable of inhibiting a number of different proteolytic enzymes. In contrast, the abnormal inhibitor observed in lungs with hyaline membrane formation did not inhibit either plasmin or trypsin, hence seems to be relatively specific for the tissue activator of plasminogen.13 This specificity suggests that the inhibitor would not interfere with attempts to treat this condition with fibrinolytic enzymes.

Etiology of the enzyme defect. A number of possibilities exist regarding the etiology of this enzyme derangement.

The possibility that inhibition of tissue fibrinolysis represents an immature state in the development of this enzyme system should be considered, but this was not supported by our findings in the control

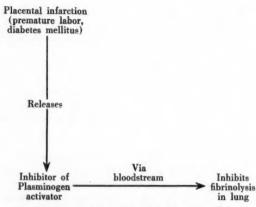


Chart 1.—A postulated etiologic derivation for the enzyme defect in hyaline membrane disease.

study. Although a number of infants without hyaline membranes were found to have a similar enzyme pattern, they were not limited to the youngest gestational group but were distributed among all the fetal weight groups.

The enzyme defect could represent the existence of an abnormal gene. This possibility is supported somewhat by the tendency toward multiplicity of cases from certain mothers, and the lack of correlation between immaturity of the fetus and the enzyme abnormality. However, a genetic factor would not easily explain the association of the disease with prematurity, diabetes mellitus or with maternal bleeding or toxemia.

The third and most probable possibility is that the fibrinolytic enzyme defect associated with hyaline membrane disease is acquired through some pathologic mechanism related to the complications of pregnancy just listed. Observations in mice indicated that an inhibitor to the pulmonary plasminogen activator can be detected in blood and in the lungs following local x-irradiation of a leg. This inhibitor was thought to have been released from the red marrow of the mouse bones. Perhaps, then, the inhibitor detected in human lungs with hyaline membranes may also arise from injured tissue other than the lungs; the placenta immediately comes to mind (Chart 1). Infarction of the placenta is a common observation in diabetic mothers, and is thought to be related to premature delivery as well as maternal bleeding and toxemia in many instances. Studies of the fibrinolytic properties of the placenta have shown it to be fibrinolytically inactive and to contain fibrinolytic inhibitors.3 Our studies with placental tissue revealed the presence of an inhibitor to the pulmonary plasminogen activator that had characteristics similar to those of the inhibitor found in lungs with hyaline membrane disease.13 The presence of this inhibitor

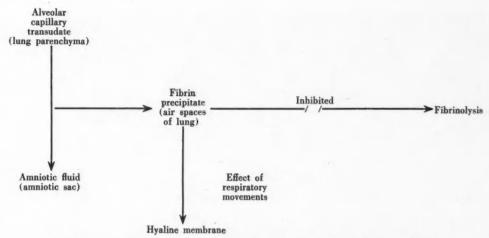


Chart 2.—A postulated source of intrapulmonary fibrin in hyaline membrane disease.

in placental tissue strongly supports the possibility that this organ may be the source of the inhibitor detected in the lungs of infants with hyaline membranes. The inhibitor would be released from the site of a placental infarction in a manner similar to the release of transaminase from a myocardial infarction. It would pass into the circulating blood and cause inhibition of the plasminogen activator in the lungs. A preliminary study of umbilical cord blood showed that all umbilical cord specimens contain inhibitor of this type, and approximately 10 per cent of these had unusually high titers.

Source of Intrapulmonary Fibrin

At present, one can only speculate regarding the presence of fibrin within the potential air spaces of the lungs. A transudate from the pulmonary capillaries is the only possible source of fibrin in sufficient amounts to enable the formation of hyaline membranes. There is difference of opinion among investigators as to whether or not such a transudate is a manifestation of pulmonary edema. An alternative explanation is that the formation of a transudate is a normal physiologic process contributing to the formation of amniotic fluid by the lungs. Evidence has been accumulating which indicates that the lungs are a source of amniotic fluid. 15,16,21 If such a continuous pulmonary capillary transudation is the means by which the lungs form amniotic fluid, then a rich source of fibrinogen is readily available (Chart 2). One must postulate that fibrin is precipitated from the capillary transudate during passage of the fluid from the potential air spaces of the lungs towards the amniotic sac, since the amniotic fluid itself does not contain fibrinogen or fibrin. The fibrin would normally be dissolved by the action of fibrinolytic enzymes and subsequently resorbed, but inactivation of the fibrinolytic system

allows the fibrin to accumulate and to form hyaline membranes following the onset of air breathing.

COMMENTS AND CONCLUSIONS

In the present study the majority of newborn infants who died of hyaline membrane disease showed an abnormal inhibition of pulmonary fibrinolytic enzymes. It is possible, however, that this does not apply in all cases. Fibrin deposition from acute pulmonary edema could conceivably result in hyaline membrane formation merely because of the inability of the fibrinolytic enzymes to cope with overwhelming amounts of fibrin. In one such case (Figure 2) massive pulmonary edema was present and typical hyaline membranes had formed. The plasminogen activator activity of the specimen of lung was normal. Another situation predisposing to membrane formation would be that occurring in extremely premature infants where the soluble plasminogen activator may be lacking due to a developmental delay. Pulmonary edema and immaturity of an enzyme system could account for 16 per cent of the cases studied in our laboratory. The majority of infants, however, manifested the enzyme abnormality described above.

Knowledge of the fibrinous character of hyaline membranes and of the abnormality in pulmonary fibrinolytic activity should logically lead to a trial of fibrinolytic enzymes for therapy and prophylaxis. Since the inhibitor does not affect plasmin directly, the use of plasmin by aerosol may be appropriate. Craig and coworkers⁸ observed that plasmin can dissolve the hyaline membrane *in vitro*, and this observation was confirmed in our laboratory. Villavicencio and coworkers²⁰ and Ebner and coworkers¹⁰ presented a preliminary report of encouraging results with the use of nebulized plasmin in newborn

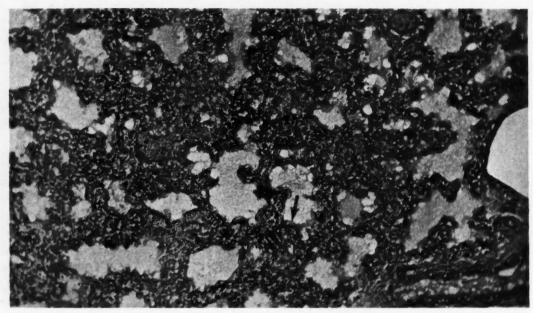


Figure 2.—Photomicrograph (×100) of lung from a newborn infant demonstrating hyaline membrane formation (see arrow) in the presence of severe pulmonary edema.

infants having respiratory distress. Further large scale, well-controlled studies of this aspect are in progress in a number of institutions and should lead to significant data.

The suggested role of the placenta in hyaline membrane disease necessitates further correlative study involving the relationship of placental infarction to the level of plasminogen activator inhibitor in the lungs and blood. If substantiated, it may be possible to detect susceptible infants by appropriate tests of umbilical-cord blood.

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Suprapubic Vesicovaginal Fistulectomy

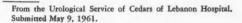
A Refinement in Surgical Technique

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MANY INVESTIGATORS have offered ways to afford better surgical exposure and access for repair of vesicovaginal fistulas. Among them is to attach lead shot to the inferior end of a heavy thread which has been passed through the fistula and into the vagina.1 Traction on the thread lifts the floor of the bladder for better access. Another is to fasten a rubber ball on the vaginal end of a suture.3 Still another suggestion for better exposure is the transvesical introduction of a Lowsley perineal retractor that is passed through the fistula into the vagina, where a firm rubber hand ball is pressed over the lower end of the instrument and held there by spreading the blades.3 All of these methods offer definite advantages in transvesical fistulectomy, but none is without some shortcoming.

In 1948 Belt² described passing a Foley catheter transvaginally through a fistula, inflating the retention bag, and then applying traction. However, extreme care is necessary in dissecting about the retention balloon, lest it be inadvertently ruptured. Moreover the balloon is neither firm enough nor flat enough to provide a good surface against which to work.

To overcome these difficulties, we used the following procedure: First carrying out suprapubic cystotomy, we passed a No. 18 (French) Foley catheter through the fistula, and an assistant drew the end of the catheter from the vagina. Then the assistant, using sterile technique as far as possible, slipped a well-lubricated common metal washer two inches in diameter (Figure 1) over the catheter. With the bag of the catheter inflated distal to the washer, application of traction suprapubically elevated the floor of the bladder easily, and the washer made a firm dissecting board beneath the fistula. Using a bistoury blade, we elliptically excised the fistula in all its layers and removed it by sliding it up the catheter. Then by alternately applying and releasing traction, with no fear of rupturing the balloon of the catheter, we readily undermined the surrounding tissues and created the layers necessary for closure.



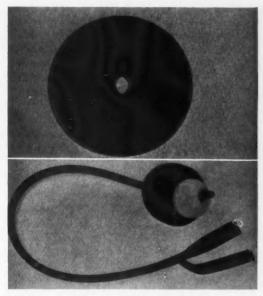


Figure 1.—Above: Two-inch metal washer used to slip over tip of Foley catheter. Below: Balloon of catheter inflated to hold washer in place when traction is applied to lift floor of bladder for better surgical access in repair of fistula.

After the first layer of absorbable sutures was placed, and before they were secured, the bag of the catheter was deflated, the washer was allowed to drop into the vagina, and the catheter was removed suprapubically. The sutures were then tied and the two end ones were used as traction sutures to afford easier placement of the next layer. The remainder of the repair was done in the conventional manner.

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Alcoholism

Medical Team Approach to Treatment

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This paper is based upon four years of clinical experience as senior physician at the Los Angeles Alcoholic Rehabilitation Clinic operating in the Los Angeles City Health Department. This clinic is one of six established by the State Department of Public Health and operated by local governments under reimbursement contracts. The personnel of the clinic consists of the following:

A full-time clinic director, who is an internist, five part-time internists, a part-time psychiatrist, a part-time clinical psychologist, a public health nurse and a registered nurse, three full-time medical social workers, a full-time public health educator and three clerical workers.

The philosophy of the clinic is based upon the premise that alcoholism is a chronic disabling disease, of unknown cause, characterized by physiological, and/or psychological, and/or socioeconomical disturbances in an individual that impair his ability to function in a normal acceptable manner in his environment. As with other diseases of unknown cause, the aim of therapy at present is to maintain the individual as close to a normal physiological and functioning state as possible. The clinic staff also accepts that a patient under treatment may relapse and that this in itself is not a reason to discontinue treatment or to chastise the patient for poor motivation or for poor cooperation. As with patients who have such diseases as diabetes, arthritis and colitis, the aim of therapy is to decrease the periods of exacerbation of illness both in frequency and in duration and to increase the periods of normal functioning as much as possible.

At present the clinic offers treatment on an outpatient basis only to residents of Los Angeles County five days a week by appointment. Upon application to the clinic, the patient is given an appointment on one of the admitting days. At that time he is seen by:

- 1. The public health nurse, who evaluates his nutritional status and his environment.
 - 2. A physician, who determines first whether or

• Various approaches to the treatment of alcoholism have been evaluated by the Los Angeles Rehabilitation Clinic since it began operating more than four years ago. A team approach similar to that used in the outpatient treatment of other chronic disabling diseases has been formulated. With the permission of the California State Department of Public Health (Division of Alcoholic Rehabilitation) preliminary figures of the follow-up study conducted by this department are presented and would tend to support the conclusion that alcoholism can be successfully treated on an outpatient basis.

not emergency treatment is needed, and then on the basis of a short history form arrives at an impression as to whether or not the patient has a drinking problem and whether or not any physiological disturbances are apparent.

3. A social worker, who does a brief screening interview to determine the patient's status with regard to his socioeconomic functioning.

The patient then is seen by the clinic director, who reviews the recommendations of the physician, the social worker and the public health nurse and arrives at a decision as to whether or not to accept the patient for therapy. If the patient is accepted, arrangements are made for subsequent appointments.

For purposes of standardization, three states of alcoholism are accepted:

- 1. Acute alcoholism (under the influence of excessive alcoholic intake).
- 2. Chronic alcoholism, active (patient has been drinking in a pattern essentially unchanged in the period immediately before the time of making the diagnosis).
- 3. Chronic alcoholism, in remission (patient has had an established pattern of drinking which at the present time appears to have been interrupted, with the patient abstinent for longer time than any known previous period of abstinence).

For purposes of record keeping and evaluation of therapy, an alcoholic is defined as a person who because of the ingestion of alcohol has difficulty in functioning in a normal and acceptable manner in his society. There are several classifications:

Presented before the Section on Public Health at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

- 1. The classic alcoholic. This refers to a person who from the very first drink or exposure to alcoholic beverages responds in an abnormal manner both as to his tolerance and his ability to control his drinking. These persons are truly said to suffer from an "addiction of the body" and a "compulsion of the mind." They make up less than 10 per cent of all alcoholics.
- 2. The reactive alcoholic. This refers to persons who turn to the use of alcohol for its sedative or tranquilizing effect as a means of escape from a problem or situation whether imagined or real, and who, having turned to alcohol, may lose control of their drinking and become unable to maintain sobriety or complete abstinence. Some 70 to 75 per cent of alcoholics are of this order.
- 3. The symptomatic alcoholic. This is a person whose drinking is a sign or symptom of an underlying mental or physical defect or illness. Thus primarily the problem here is not alcohol, for the excessive ingestion of it is no different than the excesses indulged in in other fields by persons with underlying or primary mental or physical defects. Symptomatic alcoholics constitute approximately 10 per cent of all alcoholics.
- 4. The purposeful alcoholic. This term refers to the person who drinks at a specific time for an obvious purpose or effect and, upon obtaining it, then may totally abstain without difficulty. Approximately 5 or 10 per cent of alcoholics fit this description.

After summarization of the impressions of the various members of the staff at the time of admission, the patient is then assigned to one of the major subgroupings in the clinic for treatment. These may be listed as follows:

Medical supportive. The program here is similar to any medical clinic program for a chronic debilitating disease, employing medication and clinic visits with an internist and utilizing modified medical group therapy, and consultations with the psychiatrists, the social workers and the nurses as needed.

A brief description of the drugs used in the treatment program is as follows:

Disulfiram (Antabuse®), 0.5 gm. tablets, scored. Antabuse is used in a daily dosage of one-half to one tablet, usually taken immediately upon arising. It should never be given to a patient without fully informing him of the possible reaction to alcohol and that he should wait 48 to 72 hours after his last dose before attempting to take a drink. The reaction to alcohol may be aborted or prevented by the use of antihistamines either orally or intravenously. Diphenhydramine (Benadryl®) is our choice in doses of 30 to 50 mg., intravenously, for the acute

reaction. We have found no contraindications to the use of Antabuse under proper supervision; and the only side reactions encountered were a very slight skin reaction which necessitated discontinuance of the drug, and an occasional mild gastric irritation which was relieved by taking the Antabuse after a meal or with an antacid preparation.

Antidepressants

Phenylethylhydrazine (Nardil®), 15 mg. tablets, used in doses of one tablet three times a day after meals, reduced to one tablet twice a day after desired effects obtained. Side effects are minimal and the most common is epigastric bloating and gas which is avoided by taking the tablets after meals.

Methyphenidate (Ritalin®), 5 mg., 10 mg., and 20 mg. tablets. Ritalin is used as an antidepressant and also as a stimulant. It is available in intravenous form, 10 mg. per cc. when reconstituted. It should not be used in persons prone to convulsions.

Dextroamphetamine sulfate (Dexedrine®), 5 mg. tablets, used most commonly in combination with amobarbital (Dexamyl® formula).

Tranquilizers

Meprobamate (Equanil® or Miltown®), in 200 and 400 mg. tablets. Adequate dosage is 200 or 400 mg. every 4 to 6 hours as needed.

Promazine (Sparine®), in 25 and 50 mg. tablets; also for parenteral use in 2 cc. and 10 cc. ampules, 50 mg. per cc. Primarily used intramuscularly in dosages of 50 to 100 mg. to quiet the agitated alcoholic and repeat 50 mg. every hour until desired effects obtained. Orally in dosages of 25 to 50 mg. every 4 to 6 hours as indicated.

Prozine® (each capsule containing a combination of meprobamate, 200 mg., and Sparine® 25 mg.). This is by far the most satisfying drug used. In the acutely intoxicated patient, two capsules every 4 hours until the patient has calmed down, then one capsule four times a day is usually sufficient. Using the combination, we have had no episodes of convulsions during the withdrawal period from alcohol such as have been reported when Sparine or meprobamate were used separately.

Barbiturates. The use of the barbiturates is to be avoided in the acutely intoxicated patient or the alcoholic, inasmuch as alcoholics usually react adversely to these drugs.

Antihistamines

Promethazine (Phenergan®), 25 mg. and 50 mg. tablets. Used for sleep but unfortunately some patients complain of drowsiness and heavy headedness in the morning.

Diphenhydramine (Benadryl®), 25 mg. and 50 mg. capsules. Fifty to 100 mg. for sleep at night is

tolerated quite well. The drug is used intravenously or intramuscularly during withdrawal from alcohol as adjunct to other medications.

Vitamins and Nutritional Supplements

Vitamins are given routinely, using a multiformula vitamin and mineral from therapeutic formulas and maintenance formulas. The parenteral use of vitamins is usually restricted to the acute phase of detoxification in a patient who appears to suffer from malnutrition or complains of combined system involvement. B₁ and B₆ and B₁₂ are the three "neurotropic" vitamins and as such have the biggest role to play in the treatment of alcoholics. The use of B1 has been over-magnified and it is specific only in cases in which a B, deficiency exists due to poor eating habits or excessive alcohol intake. In the presence of a combined system disease, administration of B1, B6 and B₁₂ parenterally is mandatory, as with any other combined system neuritis. A routine form of use of B₁, B₆ and B₁₂ would be a B₁ and B₆ mixture of 50 mg. per cc. plus the addition of vitamin B₁₂.

Psychiatric supportive. Here the patient is dealt with primarily by the clinic psychiatrist. This involves either individual therapy or group therapy. Group therapy here is usually more intensive than the medical group therapy referred to previously. Here again frequent consultations are available between the internist, the psychologist, social worker and the public health nurse.

Social supportive. Here the patients, who are predominantly in need of social guidance and help in adjusting to family relations, employment problems, etc., are under the major supervision of the social workers, who utilize the consultation privileges of the internists, psychiatrist, public health nurse and others.

As the patient progresses through his treatment program, staff conferences which are held weekly will periodically review his progress or failure, and modifications in the treatment program are made as needed, Improvement is measured as follows:

- Improvement in the economic status and productivity of the patient.
- 2. Improvement in his family and interpersonal relationship.
- Improvement in his physical and emotional state.
- 4. Improvement as measured by interruptions or modifications of his previous drinking pattern resulting in shorter periods of drinking and longer periods of total abstinence.

Recently the clinic psychologist has attempted to initiate a program by which each new patient may be profiled on a system of cards which may be fed into a mechanical type computer system. These cards are an attempt to measure an individual's standing and previous history with relations to his functioning in the various fields that previously were enumerated. At follow-up intervals of approximately three months, six months, nine months and a year, each patient will again be reevaluated, his profile remeasured, and progress thus may be delineated on a scale that is readily accessible to machine type computations and assembling. In April of 1961, preliminary figures of a follow-up study of the patients in the six state alcoholic rehabilitation clinics was made by the California State Department of Public Health. This was concerned with a sample of 552 male and female patients who were admitted or readmitted to the various clinics during the period of February to June, 1959, Interviewing of a selected group of these patients was accomplished primarily in May and June of 1960 and a summary of the findings is as follows:

- 1. Eighty-three per cent of the respondents said that clinic treatment had been beneficial, Seventeen per cent said they had received no benefits.
- 2. Seventy-six per cent of the respondents showed overall improvements between the time they were taken by the clinic and the time of interview, as measured by scores achieved in the six problem areas combined with changes in the drinking pattern. Eleven per cent showed no improvement and 13 per cent were considered worse at the time of interview than at the time of admittance.
- 3. Sixty-six per cent of the respondents with a known drinking pattern at the time they entered, showed improvement at the time of interview. Twenty-six per cent were the same, 8 per cent were worse.
- 4. Seventy-five per cent of the respondents were at a higher employment or income level at the time of interview than at the time treatment began.
- 5. Sixty-one per cent of the respondents had improved marital status or relationships at time of interview as compared with the time of admittance.
- 6. Fifty-eight per cent of the respondents with recent arrests records had fewer arrests in the six months before interview than in the six months before admittance.
- 7. Fifty-five per cent of the respondents with a health problem at the time of intake had improved health at the time of interview. Fifty-one per cent of the respondents who had recent hospital histories had fewer hospitalizations in the six months before interview than in the six months before admittance.
- 8. Forty-four per cent of the respondents with problems related to child care and custody at the

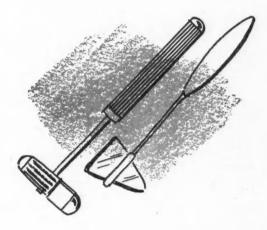
time of admittance, showed improvement in this area at the time of interview.

Although these results are not conclusive, they are based upon actual case histories and follow-up studies which attempt to set forth in the treatment of alcoholic patients specific criteria of improvement which may be evaluated so that subsequent measurements can be made at future follow-up studies.

In conclusion it may be stated that the six pilot clinic programs of the State Department of Public Health, and specifically the Alcoholic Rehabilitation Clinic of Los Angeles, have demonstrated over the past four-year period that alcoholism ought to be approached with therapists expecting no more of an alcoholic than they would of a person with diabetes or arthritis or epilepsy. If we permit the alcoholic to have some dignity in his attitude toward his illness, as we do with persons who have the other diseases

mentioned, then we can expect to achieve as much success in treatment. In the past, society has driven alcoholics from the church, from the physician's office and from the family. It has called him morally weak, sinful, and undependable, and it refused him the opportunity of being treated with dignity, of being accepted as a medically ill individual suffering from a complex, chronic, perplexing disease. We forced him in his own defense to try to find his comfort and his recovery in institutions and facilities outside of those existing today for all other individuals afflicted with a chronic disabling illness. It was not the alcoholic who lacked motivation, a term which so conveniently excused the shortcomings of our therapy, but rather society, the medical profession and also our organized religions who lacked the motivation to seek the cause, the treatment, the prevention and eventual eradication of this problem, alcoholism.

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Fasciculation

Electromyographic and Clinical Significance

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ALTHOUGH the terms fibrillation and fasciculation once were used synonymously, they are properly epithets for different phenomena. Correctly fibrillation is the word for the minute irregular contractions of individual muscle fibers—movements that cannot be seen macroscopically. The cause of fibrillation is denervation, whether from Wallerian degeneration as the result of disease or injury, or physiological as in the fetal preinnervation state. Fasciculation is the transient flickering or vermicular twitching of a muscle which can be seen with the naked eye. These irregular, involuntary twitchings result from the contraction of individual motor units, "firing" asynchronously.

As observed electromyographically, the frequency of this fasciculation discharge varies from one to three per second in some patients to as infrequently as once in 30 minutes in others. The amplitude varies as widely as does that of normal voluntary motor unit activity and is of no diagnostic importance. The sound, though, low-pitched, with a hollow quality, is characteristic. Bastron and Lambert² noted that thus far attempts to distinguish, on the basis of the configuration of the action potentials, between benign fasciculation and that which was associated with degenerative diseases of the lower motor neuron, had not been rewarding. Marinacci¹⁰ also noted that the presence of denervation activity in fasciculating muscles was a requisite to substantiation of a diagnosis of lower motor neuron disease. Indeed, fasciculation is not always recorded from such diseases and it has never been observed except with denervation activity. Abnormal fasciculation is an adjunct and not a primary finding in lower motor neuron diseases.

Marinacci⁹ observed fibrillation and sharp waves in the preinnervation state in premature infants. Fasciculation and polyphasic motor units were not observed. He described cases in which progressive degeneration of the anterior horn with fasciculation and polyphasic units during the first year of life were due to demyelinization after birth. Benign fasciculation, known as myokymia has been extensively investigated. Purves-Stewart and Worster-

 Fascicular twitching of muscles may be present as the result of compression of spinal roots or anterior horn cells, injuries of peripheral nerves or plexes or to motor neuron disease.
 Occasionally fasciculation may be of no clinical significance.

Electromyography may be of great help in determining the extent of involvement and whether other manifestations of nerve damage are present. Final diagnosis, however, depends upon the history, physical examination and clinical evaluation, since fasciculation is present in a wide variety of conditions.

Drought14 said it is especially common in the orbicularis oculis but occurs also in the larger muscles of the limbs, particularly the deltoid and biceps of the upper extremities and the gluteal and quadriceps of the lower extremities. Sometimes it amounts to a persistent quivering of muscle fibers -a condition popularly called "live flesh." Denny-Brown and Pennybacker³ observed that excessive loss of sodium chloride might induce involuntary muscular contractions and that myokymia associated with excessive hyperhidrosis was of a similar nature. Eaton and Lambert⁵ said that fasciculations, particularly those composed of repetitive discharges known as myokymia in normal persons, were also observed in patients having tetany, uremia and other metabolic disorders. Bastron and Lambert2 noted that the myokymia associated with metabolic disorders did not spread to involve the entire muscle. Denny-Brown and Foley⁴ concluded that two kinds of benign fasciculation occur in voluntary muscles -the most usual being related to the mechanism of common muscular cramps and to abnormality in excitability of the most peripheral branches of the motor nerves; the less common kind being the undulating myokymia of King and Schultze which is attributable to abnormal excitability of the proximal portion of the peripheral nerves, as in tetany. Nielsen and Marvin¹³ reported that after strenuous exercise in persons not physically trained there was diffuse fasciculation in the overstrained muscles. Atrophy does not follow and the condition has no clinical importance. It is essentially a state of exertional myokymia.

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Among the commonest causes of fasciculation are the motor neuron diseases-various forms of progressive spinal muscular atrophy. For distinction between types, Nielsen's12 classification of the various forms of progressive spinal muscular atrophy is based on the site of the lower motor neuron involvement, inasmuch as knowing the site of the upper motor neuron involvement does not help in differentiating varieties. The varieties are listed from above downward anatomically as follows:

1. Progressive ophthalmoplegia with Babinski sign or spasticity.

2. True bulbar palsy with fasciculation and atrophy of the tongue, atrophy of the lips and laryngeal

3. Amyotrophic lateral sclerosis, which is characterized by atrophy of the forearm and intrinsic hand muscles and spasticity of the lower limbs. (On Guam this disease is endemic and is inherited as a Mendelian dominant characteristic. One-fourth of the men on the island die of this disease, according to Kurland and coworkers.7)

4. Two generalized forms, characterized by fasciculation and atrophy of the general body musculature and spasticity:

(a) Werdnig-Hoffman form of infantile progressive muscular atrophy due to degeneration of the anterior cornu begins during the first few months after birth and may affect more than one family member. Lower extremities are attacked first with weakness, flaccidity, fasciculation and wasting, although the atrophy and fasciculation are usually masked by subcutaneous fat. This form is invariably fatal before age six and usually before age two.

(b) Duchenne-Aran form in adults. This and amvotrophic lateral sclerosis are the commonest of the syndromes of fasciculation with atrophy.

5. Chronic anterior poliomyelitis, which runs a rather benign course of many years and with sparing of the upper motor neuron.

6. Primary spastic paraplegia with lower motor neuron sparing.

7. Charcot-Marie-Tooth disease transmitted via either male or female, approximately 50 per cent of their children being affected. Sensory perception is intact but there may be decreased vibratory sense. Atrophy of the muscles of the legs occurs during childhood with development of talipes equinovarus foot deformities. Fasciculation occurs during progression of the disease and disappears when the usual stage of remission occurs in young adulthood. After a variable dormant period, usually 20 to 30 years, the process may again become active and affect the muscles of the upper extremities as

Conditions other than the various forms of progressive spinal muscular atrophies causing confusion and errors in diagnosis because of the similarity of symptoms and findings of fasciculation with or without atrophy are as follows:

1. Diffuse cervical spondylosis. One of the commoner causes of fasciculation and atrophy of the upper extremities and shoulder girdle. Most commonly involved are the seventh and eighth cervical roots.

2. Arachnoiditis, usually following trauma or meningitis.

3. Herniated intervertebral disc. In the cervical spine, lateral protrusions cause root compression with fasciculation and denervation, usually limited to a single myotome. There are no electromyographic abnormalities if the protrusion is central, causing cord compression but no root pressure. This should be recognized so that the clinician will not be misled by a negative electromyographic report. Gross fasciculation is not often seen when the root compression is in the lumbar spine. The electromyograph, being extremely sensitive, detects the infrequent fascicular discharges along with the fibrillation or sharp wave abnormalities.

4. Syringomelia. The cavity extends into the anterior grey matter of the cord, resulting in fasciculation and atrophy. The sensory changes and slow progression help differentiate it from the motor neuron diseases.

5. Thyrotoxic myopathy characteristically involves the girdle muscles, particularly the shoulder girdle. From McEachern and Ross'11 review of 13 cases we can describe what can be called the composite patient. He is a man past middle life who experiences progressive loss of weight, pronounced weakness, fatigability, muscle wasting and coarse fasciculations involving large sheets of muscles. There is decided tremulousness of the legs, with a tendency to fall, and incoordination of the arms, with a tendency to drop things. Electromyographically there is usually much evidence of denervation accompanying the fasciculation,

The classical symptoms and findings of hyperthyroidism are usually absent. Symptoms and physical abnormalities usually are referable to muscles. Too often diagnosis is made at necropsy or in

retrospect.

6. Pancreatic adenoma with hyperinsulinism produces fasciculations and atrophy. Barris1 reported five cases, one original. If the adenoma was surgically removed the patient recovered. In one case necropsy showed widespread degeneration in the anterior horn cells of the spinal cord.

7. Subacute generalized neuromuscular exhaustion, as reported by Nielsen, results from extreme physical activity, following which the patients become virtually paralyzed as the muscles fasciculate and atrophy. One of the patients reported upon by Nielsen lost one half of his body weight within three weeks and never regained his former strength or endurance. When the anterior horn cells pass a certain point in exhaustion, they never completely recover and are prone to further insult. Starvation and exhaustion are known to accelerate the clinical course of the progressive spinal muscular atrophies. Patients who have had acute anterior poliomyelitis early in life have a decided predisposition to motor neuron disease in middle or late life.

8. Magnesium deficiency. In 1957 Flink⁶ showed that the muscular twitching, athetoid movements with convulsions and delirium could develop in a state of magnesium deficiency. The normal value for magnesium was given as 2.27 mg. per liter of serum. Levels below 1.58 mg. per liter caused fasciculation and atrophy to appear.

9. Cervical hypertrophic pachymeningitis results in root involvement due to thickened and hypertrophic dura mater. Owing to the decreasing incidence of syphilis and tuberculosis, this entity is

becoming rarer.

10. In syphilitic nuclear disease the progress is much slower than in motor neuron degeneration. With appropriate treatment the progress is arrested. Abnormalities may be confined to lower motor neuron, or there may be some of the classical manifestations of tabes dorsalis. Pure luetic muscular atrophy is often hypotonic, the wasted muscles being hypotonic and the deep reflexes abolished.

11. Parasagittal meningioma may simulate early progressive spinal muscular atrophy with spasticity

and unilateral fasciculations of the thigh.

12. Where there are spinal cord tumors, intramedullary lesions may destroy the anterior cornu with resulting muscular atrophy and fasciculation. Extramedullary tumors also may cause fasciculation and atrophy by compression of the spinal roots.

13. Cervical hematomyelia is usually traumatic, but may result from vascular disease. The onset is quite sudden. Associated with the fasciculation and atrophy of the upper extremities is spasticity

of the lower extremities.

14. Collagen disease is rare. Walton and Adams¹⁵ reported fasciculation of shoulder girdle muscles in a case of polymyositis. Fibrillation, sharp waves and myotonic-like discharges were more frequently encountered. Fasciculation has also been reported in so-called "reflex arthritic muscular atrophy."

15. Acute anterior poliomyelitis, encephalitis, encephalomyelitis and Guillain-Barre syndrome are reported to show transient fasciculation during the

acute phase on rare occasion.

16. Plexus or peripheral nerve injuries are particularly likely to cause fasciculation when the nature of the injury is one of contusion or stretch.

Fasciculation itself has little to do with the

severity of nerve damage. In a case of extreme denervation due to trichinosis, reported by Marcus and Miller, the electromyograph demonstrated profuse, intense sustained fibrillation of denervation, but no fasciculation. It would appear that fasciculation is a manifestation of irritation of the motor unit or its nerve supply and is not necessarily associated with denervation.

The presence of fasciculation is frequently detected for the first time on electromyographic examination. In the majority of cases neither the physician nor the patient is aware of its presence. This may be due to the nature of the overlying soft tissues, especially fat. Not often are all the surfaces of the body watched long enough to detect any possible fleeting fasciculation. Also the fasciculation may be in the deeper muscles or the deeper portions of the superficial muscles. Since percussion and cooling enhance fasciculation, these measures may be taken to help in electromyographic detection when the electrical discharges are irregular and at long intervals.

Frequently when the electromyograph needle electrode is inserted, a twitching of the needle will be observed but without sound on the loudspeaker or deflection on the cathode ray oscilloscope. This occurs because the electromyograph is recording only from the very tip of the needle electrode. The wiggle of the needle is caused by fasciculation movement somewhere along its shaft. I consider this as important as noting the sound of fasciculation on the loudspeaker of the electromyograph.

Of 1,000 consecutive patients who were referred for electromyographic examination, there were 101 in whom fasciculation discharges were present. The presence of fasciculation was unsuspected in approximately 65 per cent of the patients in whom it was found. The causes of fasciculation in the 101 cases were as follows:

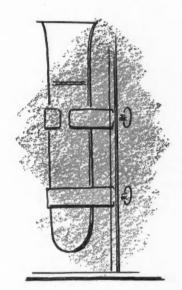
	No. of Cases
Motor neuron disease	26
Lumbar root compression	23
Cervical root or cord compression	22
Brachial plexus injury	5
Peripheral nerve injury	5
Cervical arachnoiditis	
Syringomyelia	2
Thyrotoxic myopathy	
Collagen disease	
Peroneal nerve tumor	
Vascular malformation of cord	1
Sprain of neck	2
Unknown	
2131 West Third Street, Los Angeles 57.	

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Electron Beam Therapy of Mycosis Fungoides

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Mycosis Funcoides was first described by the French physician, Alibert, in 1806. Its exact nature has provoked much controversy. The disease occurs in three stages: the erythematous, the plaque and the tumor stage. Each of the first two stages may persist for a period of months to years before progressing into the succeeding stage. The erythematous and plaque stages may simulate psoriasis or neurodermatitis. Although the first two stages may be morphologically nonspecific, the microscopic features are usually at least suggestive of mycosis fungoides. The pathologic change is confined principally to the dermis, where a band-like infiltrate composed of polymorphonuclear cells, eosinophils, plasma cells and mononucleated cells hugs and may partly obliterate the dermal-epidermal junction. Tiny abscesses composed of accumulations of lymphocytes and histiocytes may be seen within the epidermis. The infiltrate in the dermis includes a small proportion of atypical histiocytes manifesting variable size, shape and staining affinity. The presence of a large number of immature histiocytes in the infiltrate is indicative of an impending transformation into a lymphosarcoma, reticulum cell sarcoma or Hodgkin's granuloma. In the tumor stage, the lesions tend to develop ulceration and secondary infection, and the patient has severe generalized debility. In the tumors, the typical histological features of mycosis fungoides are usually modified by the presence of many atypical histiocytes, suggesting progression into a frank lymphoma. Death may ensue from intercurrent infection such as pneumonia or from involvement of the internal organs, which occurs in approximately 20 per cent of cases, usually late in the course of the disease. The average duration of life with mycosis fungoides is 7.1 years from the onset of symptoms, but only 3.7 years from the date the diagnosis is established.1

Treatment has never been fully satisfactory. Agents used in the past have included para-aminobenzoic acid, tartar emetic, nitrogen mustard, adrenocorticotropic hormone, steroids and roentgen rays; these may be useful for periods of several

• Ionizing radiation in the form of x-ray therapy is the best modality of treatment available at the present time for single, isolated lesions of mycosis fungoides. However, for generalized mycosis fungoides, generalized x-ray therapy is technically difficult and dangerous. It is now possible to employ electron beam therapy for generalized mycosis fungoides, using energies which confine the dose to the superficial layers of the skin and thus avoid hematopoietic injury. A technique for wide field electron beam therapy has been developed for this purpose which has been effective and well tolerated in limited trials to date.

months, occasionally for years, but ultimately lose their efficacy. The most effective treatment for mycosis fungoides has been roentgen therapy. Treated lesions usually resolve within two to four weeks. However, with widespread involvement of the skin in which multiple portals and repeated courses are employed, x-ray treatment becomes technically difficult and dangerous. When adequate doses of generalized x-irradiation are administered, injury to the hematopoietic system may become manifest.

A method of treatment was needed which would cover the entire body surface with ionizing radiation: the method had to be easy to administer, noninjurious to the deeper tissues of the body and therapeutically effective. This problem was met by using wide field electron therapy. With superficial x-rays possessing a half-value layer of 1 mm. aluminum (100 kv., treated area of 400 sq. cm.), the dosage at 1 cm. depth is about 70 per cent of surface dose, whereas with electrons of 2 million electron volts the dose at 1 cm. depth is less than 10 per cent of the surface dose (Chart 1). Furthermore, the dose from the electrons at 1 cm. depth diminishes rapidly with deeper penetration, whereas the dose from superficial x-rays at these levels diminishes considerably more gradually. Thus, most of the ionization in electron therapy of mycosis fungoides occurs in the superficial layers of the skin.

The pioneer work in electron therapy in this country was undertaken by Trump, Fromer and their associates in Boston.3, 4, 6, 7 An opportunity to utilize this new form of therapy occurred at Stanford University Hospital with the installation of a medical linear accelerator developed by Professor Edward L. Ginzton and his associates in the Micro-

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Submitted June 3, 1961.

From the Department of Radiology, Stanford University School of Medicine, Palo Alto (Bagshaw and Kaplan), and the Department of Medicine (Dermatology), Stanford University School of Medicine, Palo Alto (Schneidman and Farber).

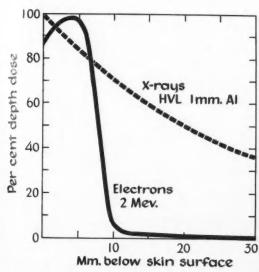


Chart 1.—Relative depth dose of electrons and x-rays. Note that at the depth of 10 mm. the ionization occurring from the electron beam is approximately 10 per cent of the surface dose; whereas at this same depth, the ionization occurring from the x-ray beam is approximately 70 per cent of the surface dose.

wave Laboratory at Stanford University.2 This accelerator was adapted and calibrated for electron beam therapy by Karzmark and associates.5 The electrons are generated by a heated filament, injected into an accelerator pipe and accelerated to an energy of 6 Mev by a microwave beam (Figure 1). The electrons emerge through a titanium window and may be converted into supervoltage x-rays by interaction with a gold target. For electron beam therapy, however, the gold target is retracted and the electrons are permitted to enter the room. A thin aluminum plate and monitoring device intercept the beam as it emerges from the linear accelerator. The aluminum plate plus the air traversed by the beam reduce the energy and scatter the electrons, resulting in the desired homogeneous field of electrons at the treatment plane.

The patient is placed ten feet from the titanium window. The body surface facing the accelerator receives the treatment (Figures 2 and 3). The requirements for an individual course of treatment demand the homogeneous irradiation of nearly the entire skin surface. Inasmuch as the penetration of the electron beam is limited to less than 1 cm., the portions of the skin which are "seen" by the electrons are those directly exposed. For descriptive purposes, the electron beam might be considered to expose the same skin surfaces as a light beam emanating from the linear accelerator. Thus every effort is made to prevent one portion of the body from shielding another portion. Hence the chin must be

MEDICAL ACCELERATOR

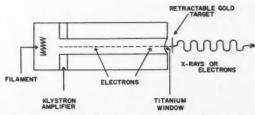


Figure 1.—Simplified diagram of Stanford medical linear accelerator. See text for explanation.



Figure 2.—Stanford medical linear accelerator. This view demonstrates the accelerator directed downward at the patient (in this case a technician). She is standing with her back against a plywood panel which represents the treatment plane ten feet from the accelerator.

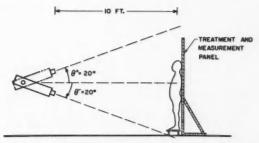


Figure 3.—Schematic diagram of treatment technique. See text for explanation.

raised to prevent shielding the submental regions. The arms must be elevated to expose the axillae, and the legs must be spread to expose the inner aspects of the thighs and gluteal folds. In moderate cases, only the anterior and posterior surfaces are exposed. When the involvement is severe and confluent, the lateral surfaces of the body are also exposed. For each surface the accelerator is first directed at an angle of 20° above the horizontal and half of the

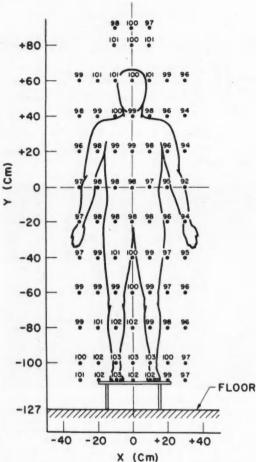


Chart 2.- Dosimetric chart demonstrating the uniformity of measured dose over the treatment plane.

dose is administered. The accelerator is then directed at an angle of 20° below the horizontal and the other half is given. The total dose to any one surface is the sum of both exposures. This technique delivers a remarkably homogeneous pattern of irradiation over the entire body surface (Chart 2).

In the usual therapeutic course, the anterior and posterior surfaces of the body are treated with 200 rads* every other day for a total of four treatments. No area receives more than 200 rads during a single day. If the lateral aspects of the body are to be treated, the treatment period is prolonged accordingly.

Patients best suited for treatment with the electron beam are those with multiple disseminated

plagues or with extensive areas of erythema and induration. An example of a case suitable for treatment with the beam is shown in Figure 4. Figure 5 shows the lesions two months after therapy. A closeup view of the right anterior chest before and after therapy is shown in Figure 6.

The following case reports are of a consecutive series of the first six patients treated by electron beam therapy for mycosis fungoides.

REPORTS OF CASES

Case 1. A 52-year-old white man noted plaques on the trunk and extremities in 1952. Biopsy at that time revealed mycosis fungoides. Treatment consisted of superficial x-ray to isolated plaques with excellent initial results, but with gradual development of tolerance to this mode of therapy. Tartar emetic injections and steroids were used with equivocal results. In April 1958, the patient had multiple plagues on the trunk, face and extremities which resisted drug therapy. Electron beam therapy was administered in the manner described, with regression and fading of the lesions within 30 days. The pruritus was likewise alleviated. Several plaques in the axilla and groin which could not be adequately exposed to the beam continued to be a source of distress to the patient. He was notably free of pruritus and lesions for approximately eleven months, after which new lesions appeared on the trunk and extremities.

In April 1959, a second course of electron beam therapy was administered. The plaque lesions faded following the second treatment. However, the disease progressed rapidly to the point where the entire skin was erythematous, glossy and thin, with multiple areas of denudation and exudation.

Because of the progression of symptoms a third course of electron beam therapy was administered in July, 1959. The response was poor and the patient died in October 1959, of pneumonia and generalized debilitation. Postmortem examination revealed mycosis fungoides of the skin with no involvement of the internal organs.

CASE 2. A 60-year-old white woman had erythematous areas on the trunk and extremities that had developed in 1953. In 1956 a skin biopsy revealed mycosis fungoides. Treatment with x-rays and grenz rays was initially effective, but over several years the disease became less responsive.

In January 1959 the patient had widespread areas of erythema and induration on the trunk and extremities. In February 1959 electron therapy was administered in the usual manner. Improvement was limited to a moderate decrease in the pruritus and induration. In March 1959 the patient died of endocarditis. Autopsy was not done.

^{*}The rad is the unit of absorbed dose and is defined as 100 ergs per gram. Only x-rays and gamma rays are measurable in roentgens (r). In flesh one r gives an absorbed dose of about 93 ergs per gram, i.e., practically one rad.

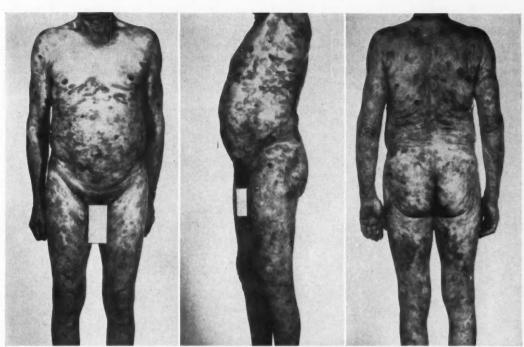


Figure 4.—Mycosis fungoides presenting multiple disseminated plaques. The multiplicity and dissemination, together with the superficial character of the lesions, make the wide electron beam especially attractive for the application of ionizing radiation. Photograph taken immediately before course of electron beam therapy.



Figure 5.—The patient received 800 rads to each of four body surfaces within an elapsed time of 12 days. Two body surfaces were treated with 200 rads each day. The photographs were made two months after treatment.

Case 3. A 45-year-old white man first noted plaques on the trunk in 1945. They were evanescent and until 1956 were controllable with topical use of drugs and x-rays. During 1956 and 1957 numerous areas were treated by the local application of either stockinette or elastoplast impregnated with a solu-

tion containing P³². While local response to the beta rays emanating from the P³² was good, the disseminated character of the disease gradually made this form of therapy impractical. The patient was treated with the electron beam at the Lahey Clinic in January 1957 and the lesions promptly disappeared. In

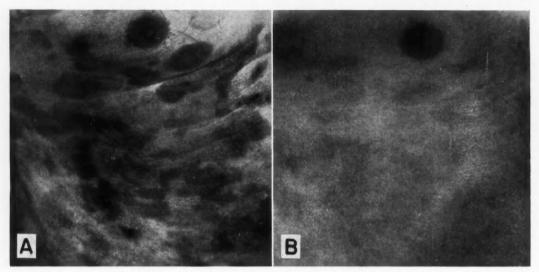


Figure 6.—A close-up of the right chest of the patient illustrated in Figures 4 and 5. A—Before electron beam therapy; B—two months after therapy.

TABLE 1.—Summary of Clinical Data in Six Cases in Which Electron Beam Therapy Was Administered in Mycosis Fungoides

Case	Age Diagnosis Established	Electron Therapy Administered (Date)	Dose in Rads	Results
1.	52	April, 1958	800	Symptom-free for eleven months. Recurrence in March, 1959.
		April, 1959	800	Symptom-free for two months. Severe pruritus and generalized erythema appeared in June, 1959.
		July, 1959	1,200	No improvement, Increased dosage given because of rapid deterioration of skin. Died in October, 1959, of pneumonia.
2.	60	February, 1959	800	Equivocal improvement. Pruritus and induration diminished slightly. Died in March, 1959, of endocarditis.
3.	54	January, 1957	700	Symptom-free for ten months. Isolated tumors reappeared in October, 1957, and resolved following conventional x-ray treatment. Throughout 1958 plaques appeared on scalp, face, buttocks, arms. These were treated with localized beam exposures.
		February, 1958	400	Partial to complete disappearance of lesions.
		April, 1958 September, 1958 January, 1959	400 400 600	New lesions in treated areas or adjacent sites within 45 days of each electron beam treatment.
		March, 1959	800	Total body treatment. No improvement. Died in May, 1959, of lymphosarcoma.
4.	72	March, 1958	800	Pronounced improvement. Main complaint of pruritus diminished, generalized erythema and "tightness" persisted.
		February, 1959	800	Retreatment for recurrence of severe pruritus, (With decided improvement.) No change in general texture of skin. No exacerbation as of February, 1960.
5.	75	February, 1959	800	Lesions disappeared. No recurrence as of February, 1960.
6.	47	April, 1958	700	Symptom-free for 8 months. Plaques and pruritus reappeared in January, 1959.
		February, 1959	800	Symptom-free as of February, 1960.

October 1957, new tumors and a few plaques appeared, necessitating local superficial x-ray therapy to the tumors. In February 1958 the plaques became very numerous and at that time and in April and September 1958 and January 1959, electron beam therapy was administered to selected areas of the body and extremities. The plaques and smaller tumors regressed, but recurrent or new lesions appeared within 45 days after each treatment. In March 1959 a full course of electron beam therapy was given, with only slight benefit. The patient died in May, 1959. At postmortem examination, lymphosarcoma of the skin and internal organs was noted.

Case 4. A 68-year-old white man first noted lesions on the trunk and extremities in 1954. The integument was diffusely erythematous, thin and atrophic. There was decided pruritus. Electron beam therapy was administered in March 1958 and the pruritus was alleviated but the diffuse erythema and skin atrophy persisted. In February 1959, because of progression of the pruritus, electron beam therapy was again administered, with notable diminution of pruritus. As of February 1960, the patient was only slightly symptomatic.

Case 5. A 75-year-old white woman had disseminated plaques on the face, trunk and legs. In addition, on one leg there was a deep ulcer that was resistant to extremely large doses of x-ray. The patient was treated with the electron beam in February 1959, with prompt regression of the pruritus and regression of all lesions except the deep ulcer on the leg. As of February 1960 there was no recurrence.

Case 6. A 43-year-old white woman had disseminated plaques on the trunk and extremities, first noted in 1953. Diagnosis of mycosis fungoides was established microscopically in 1957. Electron beam therapy was administered in April 1958, with prompt regression of lesions and pruritus. In September 1958, new lesions appeared and in February 1959 a second complete course of electron therapy was administered. The response was excellent. As of February 1960 there was no recurrence.

SUMMARY OF EXPERIENCE IN SIX PATIENTS

In all of our patients the disease became resistant to all conventional methods of therapy before the electron beam was used.

Treatment with the electron beam resulted in regression of the skin lesions and in relief of pruritus which then did not return for a long time in any of the patients except one. One patient (Case 2) died before an adequate evaluation was possible.

Therapy appeared to be more effective and beneficial when administered early in the course of the disease. When the disease had progressed to the tumor stage, the results of electron beam therapy were less dramatic.

ACKNOWLEDGMENT: The Stanford medical linear accelerator was developed with the aid of a development contract to the Microwave Laboratory of the Stanford University from the office of Naval Research, and of grants from the National Cancer Institute, National Institutes of Health, U. S. Public Health Service, and the American Cancer Society. Its adaptation to electron beam therapy was made possible by a grant from the Damon Runyon Memorial Fund for Cancer Research, and by a gift from the late Mr. Lloyd Dinkelspiel, former president of the Board of Trustees of Stanford University.

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Myometrial Reconstruction Following Myomectomy

An Improved Technique Utilizing Overlapping Laminations of Myometrium to Reinforce the Uterine Closure

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BY AN IMPROVED TECHNIQUE for myometrial reconstruction after myomectomy, the closure of the uterine operative wound is very strongly reinforced, making subsequent pregnancy decidedly less likely to cause rupture at the site. Indeed, in selected cases vaginal delivery can be the management of choice.

The chief indication for myomectomy is preservation of the child-bearing function of the uterus. In general, surgical intervention is indicated when fibromyomata become symptomatic by causing cyclic menorrhagia, menometrorrhagia or intermenstrual bleeding. Further, the majority of gynecologists believe that operation is indicated if the uterus is greater than the size of three months' gestation. In general if the woman is under 41 years of age, particularly if she is childless, myomectomy is the procedure of choice for dealing with fibromyomata. Each case, however, must be individually assessed.

The principal contraindications to myomectomy are: (1) Malignant disease anywhere in the genital tract; (2) poor operative risk; (3) patient over 41 years of age; (4) total inability to conceive, such as hopelessly irreparable tubo-ovarian disease.

Since the techniques for myomectomy have been detailed elsewhere,^{2,4,5} only salient points which are often not emphasized are presented.

I. Preoperative Management

A. Preliminary Evaluation of Tubo-ovarian Status
Whenever possible, and particularly when the
woman is childless, a preliminary tubal insufflation
should be performed. In addition, some physicians
carry out hysterosalpingography, using an aqueous
medium.⁴ In this manner, a submucous tumor may
be outlined. If the myomata are not too large and
there is question as to whether the tubes and ovaries
are normal, a preliminary transvaginal pelvioscopy⁴
(culdoscopy) may be of great value.

B. Orientation of the Patient and Her Husband Preoperatively, the patient should be well oriented as to the proposed surgical procedure, preferably with illustrations such as those in Rubin's excellently illustrated monograph. Whatever fears, A simple, but much improved technique of myometrial reconstruction following myomectomy makes the line of closure much stronger, lessening the risk of uterine rupture at subsequent pregnancy.

Basically, three laminations of myometrium are utilized to cover the endometrial wound with three layers of intact uterine muscle.

The first myometrial layer is brought from above downward and coapted to the inner third of myometrium of the anterior uterine wall.

The second lamination of uterine muscle is developed from the middle and outer thirds of the anterior uterine wall, stretched over the endometrial wound, then securely anchored to the base of the salvaged hood of myometrium that covered the nest of fibromyomata.

The third myometrial lamination consists of the aforementioned hood of uterine muscle, which is drawn forward to help form a new portion of the anterior uterine wall.

Approximately three-fourths of patients who had full term pregnancy after this procedure were delivered vaginally.

superstitions and erroneous ideas she may have, must be brought to light and overcome. Frank, honest discussion with both husband and wife before the operation cannot be emphasized enough.

The woman and her husband must both be apprised of these facts: (1) Myomectomy may not clear the way for future pregnancy; (2) new fibromyomata may develop at a later date; (3) hysterectomy may become necessary if malignant disease is found or future pregnancy is deemed absolutely impossible.

C. General Health Measures

Since the procedure is almost always an elective one, local vaginal conditions such as endocervicitis or vaginitis should be eradicated before operation.

D. Time for Operation

The best time for operation is in the immediate postmenstrual period.

II. Operative Management of Myomectomy

A. Preliminary Dilatation and Curettage

Some surgeons recommend that diagnostic dilatation and curettage be done to rule out malignant

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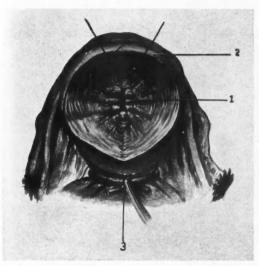


Figure 1.—Endometrial closure is facilitated by the blue-stained endometrium. (1) Usually, a purse-string suture is sufficient. (2) Hood of outer myometrium along with intact serosal surface that surrounded nest of myomata. (3) Uterine tourniquet in place. It consists of a thin soft rubber catheter that was passed through the avascular space of the broad ligament at the level of the internal os. The free ends had been stretched taut and crossed. A hemostatic clamp has been applied to the point of crossing to hold the tourniquet snugly in place.

disease before laparotomy is begun. This step seems unnecessary, however, if the extensive studies that should have been done previously, especially endometrial biopsy and Papanicolaou smears, have been evaluated.

B. Intra-uterine Instillation of Methylene Blue Solution

Just before laparotomy, under proper asepsis, an intrauterine Jarcho cannula is locked in place and 5 to 10 cc. of 1 per cent aqueous methylene blue in saline solution is injected slowly into the uterine cavity. If the dye flows easily, the cannula is withdrawn in one or two minutes. If not, 5 to 15 cc. of saline solution is injected through the cannula with moderate pressure, back flow being prevented by locking the two-way stop-cock after each 2 to 3 cc. As the epithelium will remain intensely blue for about two hours, the lumen of the uterus and tube will be outlined distinctly during the operation. If the tubal fimbriae are deeply stained and free, the surgeon knows the tube is patent. 1

Preliminary instillation of methylene blue is heartily recommended, since it is so essential to know accurately where the endometrium is during myometrial reconstruction. Identification of the uterotubal lumen is equally important, lest it be inadvertently closed in the process of repair. Further,

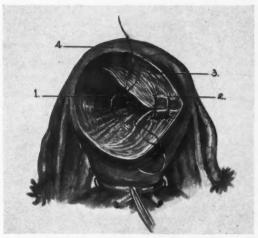


Figure 2.—First overlapping lamination of myometrium. (1) The inner myometrial layer above the closed endometrial wound is brought down over and past the endometrial closure and coapted to the inner myometrium below by interrupted sutures. (2) A second layer of uterine muscle from above has been dissected free and is now being anchored below by interrupted sutures. (3) Mass of hypertrophic uterine muscle which surrounded fibromyomata. (4) Hood of salvaged portion of outer myometrium.

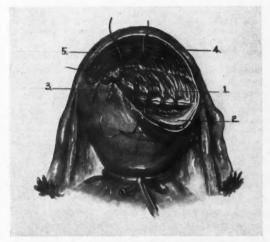


Figure 3.—Second overlapping lamination of myometrium. (1) Approximate site of closed endometrial wound which is now covered by the first overlapping lamination of uterine muscle. Compare this with sagittal section in Figure 5. (2) The middle layer of myometrium from the anterior uterine wall has been developed by careful dissection so as to make it more pliable. (3) The middle and outer thirds of the myometrium of the anterior uterine wall below the myometrial wound are being anchored to the base of the hood of myometrium. Usually, two layers are necessary, especially in the central portion. (4) Hood of myometrium with intact peritoneal surface. (5) Hypertrophic and excessive myometrium which surrounded the fibromyomata.

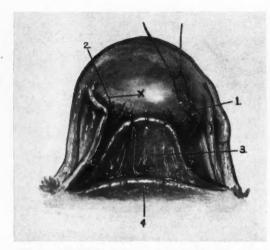


Figure 4.—Third overlapping lamination of myometrium. The salvaged hood of the outer third or so of myometrium with its intact peritoneal surface has been brought down over the first two laminations. (1) The round ligaments are utilized to provide peritoneal covering for the outer corners of the hood of myometrium. (2) The outer edges are shown tacked down with interrupted sutures. (3) The lower edges of the tacked down myometrial hood are faintly visible through the small piece of uterovesical peritoneum which had been dissected free previously, and is here shown anchored high on the new anterior uterine wall. (4) The edge of the empty urinary bladder is shown. Note that just above are three interrupted sutures to prevent the bladder from rising too high. This is done to preserve normal anatomic placement in case cesarean section should later become necessary.

if the tubes are not open, the obstruction to the passage of the dye will identify the site of closure, facilitating tubal plastic procedures.

C. Salient Points of Myomectomy

Abdominal opening. Usually a sweeping elliptical transverse incision is best. After the peritoneum is opened, a quadrilateral self-retaining retractor is placed, freeing both the assistant's hands.

Hemostasis is best accomplished by a tourniquet around the uterus at about the level of the internal os (Figure 1). A soft rubber catheter serves this purpose admirably. After a small opening is made in the avascular space of the broad ligament at the level of the internal os, one end of the catheter is pulled through. A similar procedure is carried out on the opposite side. The ends of the catheter are tautly crossed and a small hemostatic clamp is applied at the point of crossing. In some situations, it is better to clamp the crossed portions of the catheter on the posterior surface of the uterus. The tourniquet is left in place for the duration of the procedure, since intra-uterine blood flow is decidedly reduced, although not completely stopped. A small amount of blood comes into the myometrium through the utero-ovarian anastomosis. Some sur-

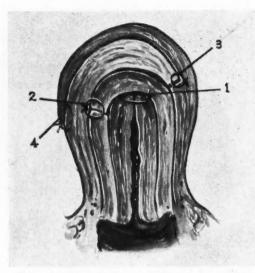


Figure 5.—Schematic representation of myometrial reconstruction utilizing overlapping laminations of myometrium. (1) The endometrial cavity has been closed. (2) The first overlapping myometrial lamination has been brought down over the endometrial wound and snugly coapted to the inner third of the anterior wall of myometrium. (3) The second overlapping myometrial lamination has been developed from the anterior uterine wall, brought up and over the endometrial wound and then anchored to the base of the salvaged hood of the outer third of myometrium. (4) The hood of myometrium with its intact peritoneal surface has been brought down and over the first two overlapping laminations of myometrium, and the outer edges tacked down with interrupted sutures. With completion of this step, the endometrial wound has been reinforced with three intact overlapping layers of myometrium. (Note: Reconstructed anterior uterine wall is on the left.)

geons prefer to release the catheter at 10 to 20 minute intervals for 30 seconds or so. I do not consider it necessary.

As an alternative, the Bonney myomectomy clamp may be used, although it tends to be cumbersome. It should be noted that Bonney¹ leaves the clamp on for the duration of the procedure.

Single incision on the anterior wall. There are very few myomata that are not accessible through such an incision. A transverse incision across the anterior uterine surface is preferable, but the conditions observed at operation will determine the direction of the single linear incision into the anterior surface of the corpus.

Careful gentle dissection. With proper hemostasis, there is absolutely no need to sacrifice gentleness and deliberate careful dissection for speed.

Preservation of serosal surface of myometrium. It is essential that the outer myometrium and its peritoneal surface be preserved as intact as possible at all times. Only after the second layer of myometrium has been developed and anchored in place

(Figure 3) should excision of excess myometrium be considered.

Direct inspection of the endometrial cavity (and curettage, if necessary) is absolutely essential. If the cavity had not been opened before, it should be deliberately cut into before myometrial reconstruction is begun. All polyps are removed onto a sterile towel. Curettage should be done if the blue stained endometrium appears hyperplastic or atypical.

With one finger in the endometrial cavity, counter pressure with the other hand or a thumb may often bring to light a small submucous myoma or one situated deep in the myometrium. The myometrium should thus be explored carefully and deliberately in search for tumors. This maneuver does not introduce infection.

III. Myometrial Repair

A. Preservation of Endometrial-Tubal Continuity

Before the myometrial repair is started, the location and integrity of the uterotubal junction must be ascertained. If there is any question, a fine probe may be placed in the tubal opening until that area is carefully sutured. When the endometrial cavity is closed, the probe is removed. Closure should be done with interrupted sutures of fine catgut (such as triple zero, 21-day chromic catgut) on a medium to large round-pointed needle.

B. Steps in Improved Myometrial Reconstruction Utilizing Technique of Overlapping Laminations of Myometrium

Closure of endometrial cavity (Figure 1) may usually be accomplished by a purse-string suture (Figure 5) or interrupted figure 8 sutures. (The identifying blue dye in the endometrium facilitates this step.) If the endometrial cavity appears too large, an oval shaped portion may first be removed.²

First overlapping myometrial lamination (Figure 2). The inner layer of myometrium above the closed endometrial opening is brought down over it and anchored in place with simple interrupted or figure 8 sutures (Figure 5). Occasionally, two layers of sutures are needed. Frequently this layer of muscle may have to be freed for the purpose with the dissecting scissors. As a rule, it should be about 0.5 to 1.0 cm. thick.

Since extreme care is necessary not to tie off the uterotubal lumen at the lateral corners, the suturing there should be done first, with the stitches very close together and accurately placed in the myometrium.

Second overlapping myometrial laminations (Figure 3). The outer myometrium on the anterior surface of the uterus (the portion below the original transverse incision) is then brought up and over the site of the endometrial wound and anchored at

the base of the hood of myometrium which had covered the fundal myoma. If necessary, this portion of the myometrium may have to be freed or loosened with the dissecting scissors. Usually, two layers of sutures are necessary to anchor it securely to the base of the myometrium above the wound. In this manner, a second intact layer of uterine muscle is made to overlap the closed endometrial incision (Figure 5). Following this step, the tourniquet is loosened for one minute and hemostasis checked for adequacy.

After this layer has been completed, considerable judgment must be exercised by the surgeon. When reconstructed the uterus should be no larger than it would be at six weeks' gestation. Accordingly, if considerable hypertrophy of the myometrium has taken place about the myomata, a certain amount of the middle muscular layer of myometrium may need to be excised. Usually, the excessive portion is located at the upper portion of the corpus (Figure 2). With experience, the amount necessary is easily determined. For the neophyte, it is suggested that small amounts be trimmed off in layers of about 0.5 cm. until the right amount has been removed. Care should be exercised to make the corpus as symmetrical as possible, using the uterine insertion of the round ligaments as guide points.

There is a difference of opinion on the question of whether reduction in size of the corpus uteri is necessary. Bonney² expressed belief that if it is not reduced, subinvolution and menorrhagia are much more likely to develop. Rubin,⁴ Louros³ and other investigators have said that the uterus will eventually involute to or near to the normal size as it does following pregnancy. Without attempting to resolve this difference of opinion, it can be pointed out that reduction in the size of the uterus as outlined above is simple and safe and it does greatly lessen the risk of excessive menstrual bleeding.

Development of third overlapping myometrial layer (Figure 4). Upon completion of the second lamination, the hood of myometrium that covered the fundal myoma is stretched taut over the previous layers and tacked down as far as possible on the anterior uterine wall with interrupted sutures. This reinforces the uterine incision with a third intact layer of myometrium (Figure 5). The tourniquet is again loosened to be sure that hemostasis is complete, then is removed.

(Note: The same method of overlapping layers of myometrium may be used for closing a vertical uterine incision on either the anterior or posterior wall. However, the layers are overlapped vertically instead of horizontally, a much more difficult procedure.)

Providing peritoneal covering. The round ligaments may be used to cover raw surfaces at the corners. In the central portion, a layer of vesicouterine peritoneum may be dissected free and brought up to cover the edge of the brim of the hood. If this is done, it is advisable to place three interrupted sutures just above the level of the empty bladder to prevent it from riding high onto the corpus.

On the posterior surface of the corpus, the ovary may be anchored over a high uterine incision. If the incision is low, the peritoneum over the uterosacral ligaments may be used to cover the wound. If there are numerous incisions on the posterior surface, then the large bowel may be anchored to it; a piece of omentum may be dissected free and held in place with interrupted sutures; or, best of all, a large piece of dry Gelfoam® may be used to cover the raw surfaces, a few well placed sutures holding it in place. The holes in the broad ligament are closed with purse string sutures from the anterior surface.

Temporary one-point suspension of the uterus was performed in over half of the 61 cases in which the operation here described was used. This is accomplished by passing a nylon or dermal suture, size 0, through the anterior superior surface of the uterus. The ends, which are left long and untied, are passed out through the incision. When the skin edges are closed, the loose ends are tied snugly, but not tightly, over a four-fold piece of gauze. After normal bowel function has been established, usually on the third postoperative day, one side is cut and the suture is removed.

The temporary one-point suspension serves two purposes. First, when the uterus is held up in this manner, there is no vascular congestion and thus less chance of oozing. Second, if abdominal distention does occur, there is far less chance of adhesions of small bowel to the anterior uterine surface.

In some cases, a modified Gilliam suspension was utilized for a more permanent form of uterine suspension.

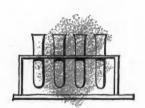
NOTES ON RESULTS

Between 1946 and 1958, the techniques described were used in 61 infertile women with significant myomata uteri. Forty (65.7 per cent) conceived, while 27 women (44.3 per cent of the total) went to term one or more times. Some 75 per cent were delivered vaginally. Several were given very dilute Pitocin® intravenously for dilatory labor. The principal indications for cesarean section were contracted or borderline pelvis, breech presentation, active labor for 12 hours with no progress and primiparity after age 36. One patient was delivered, in another city, of an 8-pound baby presenting by breech after 36 hours of good active labor.

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Advanced Neoplastic Disease

Treatment with 5-Fluorouracil and Irradiation

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CURRERI, ANSFIELD and their associates^{1,2} have shown that the intravenous administration of the pyrimidine antagonist, 5-fluorouracil (5-FU), produces a significant degree of objective improvement in an impressive number of patients with far advanced cancer. We have confirmed their observations in patients with hepatoma, hormone-resistant carcinoma of the breast and carcinoma of the colon. However, certain kinds of neoplastic disease, particularly squamous cell carcinomas of the lung and of the head and neck, did not respond to treatment with this agent alone.

The studies of Curreri and coworkers also clearly showed that the range between therapeutic and toxic levels of 5-FU administration was narrow, and that pronounced signs of tumor regression were observed when a mild degree of toxicity was induced during treatment with the drug, Major manifestations of toxicity were characterized, most commonly, first by the development of ulcerative lesions in the mucosal lining of the alimentary canal with both squamous and columnar epithelium being affected, and later by suppression of hemopoiesis. Since the growth of normal squamous (or columnar) epithelium was seriously impaired by the administration of 5-FU, it seemed logical to assume that rapidly growing, anaplastic carcinomas of squamous cell origin might absorb enough 5-FU to interfere with the metabolism of individual tumor cells (even though not in a sufficiently high concentration to produce tumor cell death), thus making them more readily susceptible to the cancericidal effects of ionizing radiation. Hence, a study was undertaken to determine the possible response and the toxic effects of 5-FU when administered concomitantly with x-radiation to patients with 5-FU-resistant, inoperable cancers. Preliminary reports of this study have been published.3,4

METHOD OF STUDY

The initial phase of this investigation was designed to study the effect of combined therapy on inoperable, anaplastic squamous cell carcinomas of

• One hundred and twelve patients with far advanced, inoperable neoplastic disease were treated by a method utilizing the simultaneous administration of the pyrimidine antagonist, 5-fluorouracil, and ionizing irradiation to an estimated tumor dose of 2,000 roentgen units. Seventy-seven of them had periods of objective regression of tumor of three months or more.

The data presented suggest that either there may be an additive effect when the two modes of therapy are used simultaneously or one mode of therapy may potentiate the antitumor effect of the other.

the lung and of the head and neck. Subsequently, other forms of neoplasms, including those in patients with extensive pulmonary metastasis, were included.

The original dosage schedule for 5-FU when used alone, proposed by Curreri and coworkers1,2 was as follows: 15 mg, per kg, of body weight for five successive days, followed by 7.5 mg. per kg. every third day for four doses. Doses for obese patients were calculated on ideal weight, but no patient, no matter how obese, received more than 1.0 gm. of 5-FU per day. Since it was anticipated that symptoms of toxicity would be produced more readily with combined 5-FU and radiation therapy, a dosage schedule slightly less than that proposed by Curreri and coworkers was adopted by us: 15 mg, per kg. per day was given on three successive days, 7.5 mg. per kg. on the fourth day, the same dose on the fifth day, and thereafter 7.5 mg. per kg. twice weekly until two weeks after x-ray therapy had been completed. The drug was given by intravenous injection. Administration of the compound was interrupted for several days at the first sign of the development of a toxic manifestation. Treatment was resumed as soon as all signs of toxicity had disappeared. Blood cell counts as a rule were obtained at weekly intervals, but occasionally more frequently.

Since it is known that squamous cell carcinomas of the lung and of the head and neck, with rare exceptions, will not regress significantly as a result of irradiation to a depth or tumor dose of 2,000 roentgen units, all of our patients, during the initial phase of this study, received 2,000 r or less total tumor dose concomitantly with the administration of 5-FU. Since it is also known that radiation pneumonitis or

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^{9,} and Napa State Hospital, Napa. Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

TABLE 1.—Results of Treatment with 5-FU + Irradiation (112 Patients with Cancer)

Type of Neoplasm	No. of Cases	Objective Response	Subjective Response Only	Treatment Inadequate	Not Evaluable	None
Carcinoma:						
Lung	38	33		****	****	5
Head, neck	15	10	2	2	1	****
Ovary	8	4		ī	î	2
Breast	7	5	****	•	•	2
Bladder	5	2	1	****	1	ĩ
Metastasis	5	3	1	****	î	î
	4	9	****	****	1	1
Pancreas	4	2		****	1	1
Colon, rectum	4	1	1	****	****	2
Stomach	4	2	****	2	****	****
Cervix	4	1	****	1	****	2
Esophagus	3	2	****	****		1
Uterus	2	2	****	****		****
Gallbladder	1	1	****			
Malignant melanoma	Ā	i		****	1	9
	2	2	****	****	1	4
Reticular cell sarcoma	3	3	****	****	****	****
Gynandroblastoma	1	1	****	****	****	****
Embryonal cell	1	1	****	****	****	****
Osteosarcoma	1	1	****	****	****	****
Sarcoma, uterus	1	1	****	****	****	
Mixed tumor, parotid	1	1	••••	****	****	
		_	-	_		-
Total number of cases	112	77	4	6	6	19

pulmonary fibrosis rarely results from a depth dose in the lung of 2,000 roentgen units, the same dosage schedules for irradiation and 5-FU administration were used in patients having extensive pulmonary metastasis as in those with carcinoma of the lung and of the head and neck.

Later in the study, doses of irradiation in excess of 2,000 r (tumor dose) were given when it was felt that the nature and site of the lesion afforded a chance for a prolonged period of palliation. With few exceptions, orthovoltage was used; in a few cases, supravoltage.

In patients with pulmonary lesions, x-ray films of the chest were taken before radiation therapy was begun and one to three weeks after it was completed. Measurements of palpable lesions were made at one or two-week intervals.

RESULTS

The results in this study were reported under these headings: objective response, subjective response, inadequate treatment, not evaluable (result equivocal or patient lost to follow-up), and no response. Objective response includes: (1) measurable reduction in tumor size; (2) leveling off or reversal of downward weight curve; (3) improvement in patient's performance status; and (4) maintenance of the above criteria for a minimum of three months. These criteria are slightly more rigid than those of Curreri and Ansfield, whose data are based on a two months' period of improvement.

The results of combined 5-FU and radiation therapy in 112 patients with cancer are shown in Table 1. Seventy-seven showed improvement that fulfilled

the criteria for objective response. The highest incidence of objective response was noted in carcinomas of the lung and of the uterus and in reticular cell sarcoma. Relatively good incidences of response also were observed in carcinomas of the head and neck, esophagus, breast and ovary. In isolated instances, patients with widespread metastasis in the lungs arising from a number of primary sites had long periods of objective response. Illustrative cases are shown in Figures 1 to 7.

TOXICITY

The studies of Curreri and coworkers showed that when 5-FU was used alone, tumor regression was observed only when patients were treated to a toxic level. Therefore, their regimen of therapeutic procedure consisted of an attempt to attain minimal to moderate toxicity yet avoid severe toxicity.

Our protocol was designed to avoid the development of toxic manifestations insofar as possible, although occasional moderate to severe toxic reactions were anticipated because of the apparent additive effect of 5-FU when used concomitantly with ionizing radiation. Toxicity was minimized by careful inquiry daily concerning the earliest symptoms of the development of sore mouth, sore throat, pain on swallowing, cramping abdominal pain or diarrhea. Whenever these symptoms occurred, both radiation and drug therapy were discontinued until the symptoms had abated-three or four days. It was found that failure to follow this practice often resulted in severe toxic reactions. The incidence of toxic manifestations in our series of cases is shown in Table 2.

TABLE 2.—Toxic Manifestations in Series of 112 Patients with Cancer Treated with Combined 5-FU and X-ray Therapy

Toxic Manifestations:	No. of Case
Stomatitis	11
Pharyngitis	7
Dysphagia	9
Nausea and vomiting	4
Diarrhea	19
Loss of hair	3
Dermatitis	2
Leukopenia (below 4,000 cells per cu. mm.)	68
Thrombopenia (below 100,000 cells per cu. m	m.) 8

Leukopenia with neutropenia occurred more frequently than any other sign of toxicity. In most instances, the leukocyte count seldom fell below 2,000 to 2,500 cells per cu. mm., but occasionally a severe degree of leukopenia developed with alarming rapidity. In one case, that of a 16-year-old boy who was receiving combined therapy for recurrent squamous cell carcinoma of the nasopharvnx that had spread to cervical lymph nodes, the leukocyte count fell from 6,400 to 600 cells per cu. mm, in the course of one week. Treatment was stopped and one week later the leukocyte count had risen to 4,600 cells per cu. mm. In our experience, recovery from a severe degree of leukopenia is almost as rapid as the initial fall, providing both radiation and drug therapy are interrupted promptly.

While combined treatment brought about a decrease in thrombocytes below 100,000 per cu. mm. in eight of 112 patients in the series, hemorrhagic phenomena were not observed. Platelet counts returned to normal levels promptly following cessa-

tion of treatment. Erythropoiesis was not significantly affected by the concomitant use of 5-FU and irradiation in the present series.

DISCUSSION

Early studies by Ansfield and Curreri¹ demonstrated that carcinoma of the lung (16 cases) and of the head and neck (four cases) did not respond to treatment with 5-FU when that agent was administered alone. However, in the present study neoplasms of the same type were observed to regress at an unusually rapid rate when treated simultaneously with the drug and ionizing radiation, even with estimated tumor doses as low as 2,000 roentgen units. Moreover, the responses to combined therapy were remarkably consistent. It is postulated that the data herein reported suggest that either there may be an additive effect when the two modes of therapy are used simultaneously or one mode of therapy may potentiate the antitumor effect of the other.

Systemic toxicity from 5-FU does not seem to be enhanced by the concomitant administration of localized irradiation, but mucosal and cutaneous reactions within irradiated fields are decidedly greater with combined therapy than with irradiation alone. This is especially true of pelvic or abdominal fields, necessitating reducing not only individual doses of 5-FU but also the daily doses of radiation (not infrequently by as much as 50 per cent). Except in rare instances of hypersusceptibility, severe toxic reactions can be avoided by carefully inter-

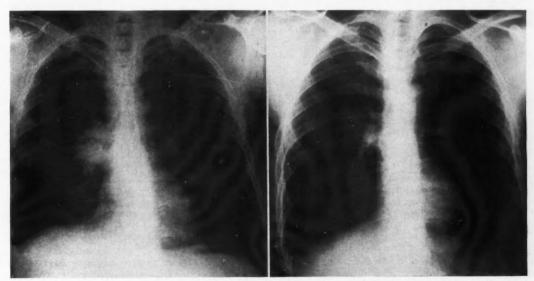


Figure 1.—The patient, a man 44 years old, had bronchogenic carcinoma of the right lung. Left: A chest film, dated August 13, 1959, taken before starting combined 5-fluorouracil and orthovoltage radiation therapy. Right: Chest film taken on September 15, 1959, four days after completion of combined treatment (estimated radiation tumor dose: 1.890 r).

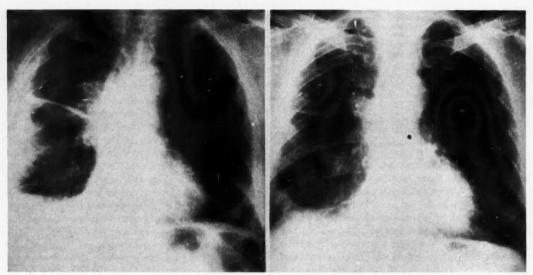


Figure 2.—The patient, a man 70 years of age, had bronchogenic carcinoma, right lung. Left: Chest film dated January 19, 1959, taken before commencing combined therapy. Metal clips were inserted to outline tumor margins at time of thoracotomy. Right: Chest film dated March 16, 1959 was taken 17 days after completion of supravoltage irradiation (6 MEV linear accelerator), 5,628 rads being delivered into the tumor. The patient was living without evidence of recurrent disease 21 months after institution of treatment.



Figure 3.—A 43-year-old man had adenocarcinoma of esophagus at junction of middle and lower thirds. Left: Film dated August 18, 1959, taken before starting combined therapy. Right: Film dated November 9, 1959 was taken 13 days after completion of irradiation therapy (3,000 r in air delivered to each of two portals, anterior and posterior chest).

viewing and examining patients each day while they are undergoing combined treatment. If this is done, ambulatory patients can be treated safely on an out-patient basis. However, it is important to emphasize that blond or red-headed patients with thin, white skin are particularly susceptible to severe cutaneous reactions when orthovoltage is employed

concomitantly with the administration of 5-FU unless the daily dose of irradiation is kept at a very low level. Combined therapy utilizing supravoltage in patients of this type minimizes the risk of serious skin reactions.

At least two advantages to combined therapy of the type described in this paper are readily appar-

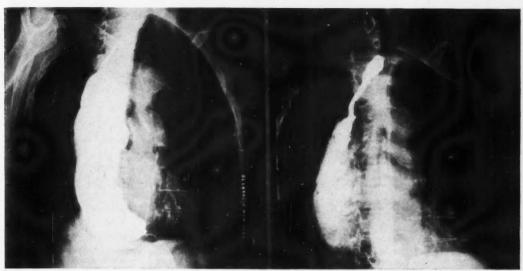


Figure 4.—Case of recurrent squamous cell carcinoma of esophagus at junction of upper and middle thirds in man 68 years of age. Left: Film dated July 7, 1960, made before beginning combined therapy, reveals pronounced constriction of the remaining small portion of the esophagus above the transplanted stomach (the lower two-thirds of the esophagus had been resected 1 year previously). Right: Film dated August 10, 1960 was made 12 days after completion of irradiation therapy (1,440 r, estimated tumor dose).

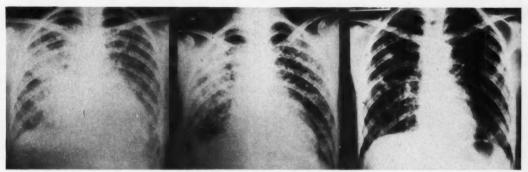


Figure 5.—A woman 28 years of age had widespread metastatic undifferentiated carcinoma, primary site unknown. Left: Film dated September 25, 1959 was made before institution of combined therapy. Note the enormously enlarged heart secondary to cor pulmonale, Center: Film dated November 18, 1959 was taken 31 days after completion of irradiation therapy (1,700 r depth dose) to the right lung. Right: Film dated December 30, 1959 was made 23 days after completion of irradiation (1,700 r depth dose) to the left lung. The return of the heart size to that approximating normal should be noted.

ent. First, significant and at times prolonged periods of tumor regression can be obtained with radiation tumor doses of 2,000 roentgen units or less, thus minimizing the deleterious effects of irradiation on certain normal tissues. For example, one or both lungs containing multiple metastatic lesions may be treated with relatively little risk of producing radiation pneumonitis or fibrosis. Second, recurrent tumors in previously heavily irradiated areas may be re-treated with less danger of producing radiation necrosis. Moreover, combined therapy of the type herein described opens up new avenues for research in the treatment of patients with inoperable cancer, for example, (1) studies of duration of remission

and/or survival times of patients with inoperable primary lesions treated with 5-FU and irradiation in tumor doses far in excess of 2,000 roentgen units, using supravoltage as well as orthovoltage techniques; and (2) utilization of analogues of 5-FU—5-fluoro-2'-deoxyuridine (FUDR) and 5-bromo-2'-deoxyuridine (BUDR)—with ionizing irradiation to determine whether or not these compounds might be less toxic than 5-FU. In our investigation to date, the initial response to combined therapy has been impressive. Consequently, a study designed to determine the long-term effects of treatment with 5-FU and irradiation has been initiated.

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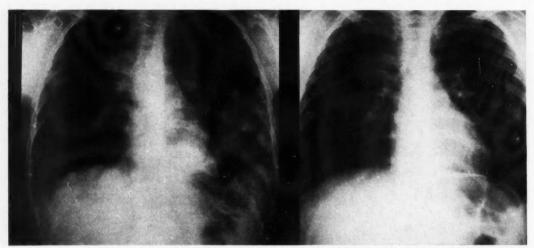


Figure 6.—The patient, a 16-year-old boy, had pulmonary, hilar and mediastinal metastatic lesions from Ewing's surcoma arising in right calcaneus. *Left:* Film dated May 25, 1960 was taken before combined therapy. *Right:* Film dated June 20, 1960 was made one day after completion of irradiation (1,000 r depth dose to both lungs).

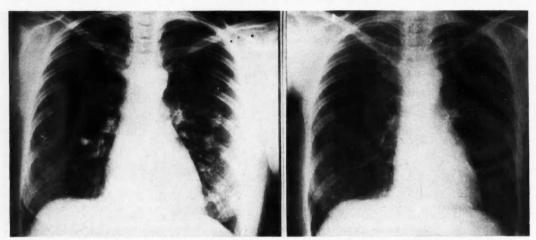


Figure 7.—A woman, 49 years of age, had pulmonary metastasis from adenocystic carcinoma of the salivary gland. Left: Film dated February 23, 1960 was before combined therapy was begun. Right: Film dated May 17, 1960 was made 43 days after completing a course of irradiation to the left lung (1,700 r depth dose) and 18 days after completion of irradiation to the right lung (1,800 r depth dose).

ACKNOWLEDGMENTS

We wish to thank Mr. M. J. Schiffrin and Dr. S. J. Hazan of Hoffmann-La Roche, Inc., Nutley, New Jersey, for supplying 5-fluorouracil for this study.

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The Repair of Difficult Inguinal Hernias

Resection of the Spermatic Cord

JOHN H. GIFFORD, M.D., and ROBERT J. MOES, M.D., Los Angeles

FOR CERTAIN HERNIAS the prospect of cure is greatly enhanced by completely closing the internal ring and obliterating the inguinal canal. For some hernias, notably those of the large sliding type and hernias that recur time and again, the prognosis is poor unless the internal ring and the inguinal canal are repaired in that way.

The classical means of dealing with hernias of this order involved castration. In modern times when the testis is removed, the cord structures are removed to the level of the internal ring and proper reconstruction of the region is carried out. This is the common procedure today in operations for repair of hernia of the type under consideration.

Each of the authors of the present communication, independently of one another, for many years has dealt with hernias of this type by removal of the cord structures from the inguinal canal and preservation of the testis and the portion of the spermatic cord distal to the external ring. One of us first undertook this mildly startling approach following the observation that often upon complete dissection of recurrent hernias in cases in which there had been a number of previous repairs, no semblance of cord structure, much less of circulation to the testis, could be found, and yet the testis was a viable and apparently normal structure. The other author began using this method after observing, in a case in which the spermatic artery was inadvertently severed, that atrophy or other permanent alteration in the testis did not ensue.

Upon a review of the literature, we found previous reports and observations, albeit somewhat scanty, on the method we had happened upon. Burdick and Higginbotham, reporting in 1935, were apparently the first to describe intentional division of the cord structures in the treatment of inguinal hernia. They listed two hundred cases treated in this fashion. Wound infection developed in 17 per cent of cases and the recurrence rate for hernia was 10 per cent. The fate of the involved testis was not made plain, although it appeared that orchiectomy was necessary in four cases, in each instance because of persistent infection. A fairly common observation was that the testes became swollen and

• A method of removing the cord structures from the inguinal canal and preserving the testis and the portion of the spermatic cord distal to the external ring was used in repair of large or recurrent hernias in 14 patients. Only one patient had pronounced testicular atrophy. In one case there was recurrence through the femoral canal. The procedure is simpler and shorter than removal of the testicle as well as the cord.

tender and that this persisted for approximately two months following operation. Atrophy occurred rarely.

In 1940 Neuhof and Mencher³ reported on 25 cases of recurrent and sliding hernias in which the cord structures were divided and ligated. Nineteen of the patients were available for later study. Six of them had obvious atrophy of the testis and two a slight atrophy. Eleven remained grossly normal. In this series none of the patients had to have a testis removed because of necrosis or "infection." In two of these patients the involved gonads later became available for microscopic study and they were histologically normal. There were two recurrences of herniation.

Neuhof and Mencher refuted the misconception (which, however, still continues) that the internal spermatic artery is an end artery and the only one by which blood can be supplied to the testes. They portrayed the role of the cremasteric artery as the key vessel in the collateral circulation to the testis when all the vessels in the cord are tied off above the scrotum.

In 1952 Heifitz and Goldfarb² reported 23 cases in which the cord structures were ligated and removed from the inguinal canal. In four of the patients there was some degree of atrophy of the testis; in the remainder the gonads were grossly normal. In one case wound infection made orchiectomy necessary and in another the testis was later removed because of the development of a hydrocele. In the latter case the excised testis was found grossly and histologically normal. There were no recurrences in this series.

Resection of the spermatic cord is not technically difficult; indeed it is simpler than removing the testis and the cord. The simplicity reduces operating time and morbidity, a particular advantage in older

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patients, in whom hernia is quite likely to be of the kind under consideration in this communication.

A few details of technique may be worth noting. Consideration should be given to the physical nature of the cord structures in each case. The normal spermatic cord of the usual diameter may be transfixed and doubly ligated without concern over unusual tissue necrosis or over the possibility that the spermatic artery or a vein might slip from the ligature. Larger cords and those containing much fat should be broken up into their components and the structures individually ligated.

In many instances after multiple recurrences of hernia, it is not possible at operation to identify the structure of normal cord and the deteriorated structure remaining may be completely and intimately adherent to scar tissue. In such cases the remnants of the vascular supply may be freed and ligated at either end of the inguinal canal, with the intervening portions allowed to remain as part of the floor of the canal.

The proximal end of the cord structure should be severed and ligated at the level of the internal ring and allowed to retract. The distal interruption and ligation—and this is of considerable importance—should be made high in the scrotum and adjacent to the pubic tubercle. This makes for the least possible interruption of the cremasteric circulation. Also in the interest of preserving this accessory circulation, it is unwise to manipulate the distal cord structures unnecessarily or to attempt to withdraw the testis from the scrotum. For the same reason, it is often best to leave the distal portion of a congenital sac in situ rather than to remove it at the risk of disturbing such accessory circulation as may be present.

The inguinal portion of the cord having been removed, one may then proceed to a completely

closed repair of two-layer type, to the use of an implanted prosthesis or to whatever variation the circumstances suggest.

We have used the method described in 14 cases. Division of the cord structures was resorted to in cases of previous multiple recurrence of hernia and for repair of large sliding hernias in older persons. The postoperative course is not infrequently characterized by a febrile reaction, usually on the second, third and fourth postoperative days, the temperature sometimes reaching 102° F. There is, however, no concomitant acceleration of the pulse rate or unusual toxicity or malaise. Scrotal redness and edema and moderate pain in the testicle are common. The enlargement of the testicle eventually subsides so that at the end of the second month it is usually of normal or slightly less than normal size. In other instances the postoperative course is entirely that to be expected after simple repair of an inguinal hernia. In our experience the stay in hospital and the postoperative period of disability are no longer after the operation described than after conventional operation for the purpose. Wound infection developed in one case. One patient had recurrence, through the femoral canal. One patient had pronounced testicular atrophy.

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CASE REPORTS

Detection and Treatment of Cardiac Arrest in the Home

LEONARD M. LINDE, M.D., Los Angeles

In the Past few years, numerous descriptions of successful cardiac resuscitation have been reported.¹ Recently, methods of cardiac massage without opening the chest have been developed² which should permit cardiac resuscitation outside of a hospital setting. Successful pulmonary resuscitation has been facilitated by spread of knowledge of mouth-to-mouth breathing. This communication concerns successful cardiac and pulmonary resuscitation by the parents of a child in whom complete cardiac arrest and apnea had occurred at home.

REPORT OF A CASE

The patient, a two-and-a-half year old boy, had had a heart murmur and congestive failure from infancy, with repeated episodes of pneumonia. Diagnostic studies revealed a ventricular septal defect, for which operation was performed in April, 1960. After the operation complete heart block necessitated frequent use of an electronic pacemaker. The patient was released from the hospital with prescription of isoproterenol by rectum but returned to the U.C.L.A. Medical Center eight days after discharge because of a 24-hour history of apnea, cyanosis and convulsions associated with repeated episodes of transient cardiac arrest lasting 10 to 20 seconds. Between these episodes, the pulse rate was noted to be around 45 per minute in contrast to the usual rate for this patient of around 60.

Bipolar electrodes were placed directly in the myocardium and an electronic pacemaker was used for about a month. Then isoproterenol, ephedrine and phenobarbital were administered in combination and the pacemaker wires were removed. The patient was discharged, still receiving these drugs, with an Electrodyne Cardiac Monitor Pacemaker (Model PM-65) that gave an audible high-pitched tone with each QRS complex of an electrocardiogram. The pulse interval could be set at a given level with this machine and if this interval were exceeded, as with cardiac arrest, a continuous high-pitched tone

was produced. A special electrocardiographic cable connected the boy and the machine, and the parents were thus warned. The continuous high-pitched sound which occurred with asystole was more than sufficient to awaken those in the household instantly. The parents were instructed in techniques of mouth-to-mouth breathing and closed-chest cardiac massage before the patient returned home.

Discharged in early July, the patient did fairly well for two and one-half months in spite of persistent heart block and slow pulse rate. Then he had a viral infection with fever lasting 24 hours. He was increasingly irritable and the previous regular slow pulse rate became irregular and slower. At 5 o'clock one morning his parents were awakened by the continuous high-pitched alarm of the monitor-pacemaker. They noted that the patient was completely apneic and deeply cyanotic with no palpable or audible cardiac beat. Initial external electronic stimulation was not successful in producing a cardiac beat or femoral pulse. Then, while his mother performed mouth-to-mouth respiration, his father used closed-chest massage according to recently described techniques2 and was soon able to palpate a femoral pulse each time he compressed the sternum. The boy's color improved within a few minutes and his parents were able to change to the Electrodyne Pacemaker to achieve external pacing of the cardiac beat. Following this episode, the patient remained in semi-coma for 15 minutes but recovered and cried vigorously on the way to the hospital. Two hours later, he was able to eat a large breakfast and did entirely well for the rest of the day.

The following day, he had two more episodes of complete cardiac arrest, which responded to chest compression and artificial respiration by the medical staff. In each instance, the patient recovered within a few minutes with no apparent brain damage. Cardiac arrest occurred again the next day, but use of an electronic pacemaker with needles placed subcutaneously did not restore the beat.

COMMENT

Restoration of a normal cardiac beat after cardiac standstill or ventricular fibrillation has become a very frequent phenomenon in the operating room. In other instances, well-organized teams have occasionally succeeded in cardiac resuscitation in pa-

From the Department of Pediatrics, University of California School of Medicine, Los Angeles 24.

Submitted May 3, 1961.

tients in other parts of the hospital. Most of the reported cases^{1,2} involved adult patients who had acute coronary occlusion in a hospital setting.

Complete heart block is a rare complication of surgical repairs of the heart and the prognosis is poor. In the present case, the patient's parents were able to initiate a cardiac impulse after cardiac arrest in the home, using mouth-to-mouth pulmonary resuscitation and closed-chest cardiac massage by sternal compression.

Department of Pediatrics, U.C.L.A. School of Medicine, Los Angeles 24.

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False Aneurysm of the Facial Artery

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EXCEPT for one reported by Pettiti and Jennings¹ in 1952, we could find in the literature no report similar to the following case of false aneurysm of the facial artery resulting from a gunshot wound of the face.

REPORT OF A CASE

A 35-year-old man six feet three inches tall and weighing two hundred and twenty-five pounds was admitted to the Veteran's Hospital, Oakland, September 28, 1960, by transfer from another hospital where for two days he had been treated for a gunshot wound received when a .32 caliber revolver accidentally discharged. The bullet had shattered the right mandible, passing through the floor of the mouth and lodging in the left side of the neck posteriorly. The patient had been admitted to the previous hospital shortly after the accident. There, apparently because of considerable bleeding and pronounced facial and intraoral swelling, tracheostomy was done soon after he was admitted. He had received penicillin, streptomycin and chymotrypsin intramuscularly, as well as tetanus toxoid and tetanus antitoxin in adequate dosages.

At the time of admission to the Veteran's Administration Hospital, the tracheostomy tube was in place and the patient answered questions by shaking or nodding his head. Although he was in moderate distress, he was alert and cooperative. There were

areas of decided firm swelling over the right jaw and cheek and in the submental area. No crepitation was noted. A foreign body was palpated just beneath the skin of the lateral aspect of the left side of the neck, toward the back. There was a small puncture wound approximately 1 cm, in length over the lateral aspect of the right jaw. Upon examination inside the mouth an obvious fracture of the body of the right mandible was observed and the first molar tooth was badly shattered. The floor of the mouth and the tongue were swollen and there was considerable ecchymosis. The teeth could not be brought into proper occlusion.

Oral temperature at the time of admission was 101.0° F., the pulse rate 100, blood pressure 140/ 80 mm. of mercury and respirations 20 per minute. Results of urinalysis and examination of the blood were within normal limits, X-ray films of the chest showed considerable increase in markings in both lungs, with some tendency to patchiness suggesting bronchopneumonia. Roentgen studies of the right mandible showed a decidedly comminuted fracture, with loss of bony substance and numerous tiny opaque foreign bodies scattered in the bone and soft tissue about the fracture. The biggest of the foreign body fragments was approximately a centimeter long and half a centimeter thick. It lay in the soft tissues of the left side of the neck, slightly below and about two centimeters posterior to the angle of the mandible on the left.

The patient was admitted to the Surgical Intensive Care Unit, Penicillin, 600,000 units twice a day and streptomycin 0.5 gm. twice a day were given intramuscularly. On September 29 debridement at the fracture site inside the mouth was carried out, the fracture was reduced and the mandible was immobilized by intermaxillary wiring. As the swelling about the right cheek, neck and face subsided, a small area of swelling approximately 3 centimeters in diameter persisted in the area of the entry of the bullet. By the morning of October 12, a pulsation could be felt and seen in this swollen area. Soon afterward, intra-oral bleeding began from this site. These developments were attributed to false aneurysm due to trauma of the facial artery. With the patient under general anesthesia and with an endotracheal tube in place, the right facial artery was clamped, cut and tied with interrupted sutures of No. 20 cotton. However, due to collateral circulation this did not control the pulsation in the swollen area. It was necessary to open the swollen area and tie off the vessel in several places with 4-0 arterial silk to control the bleeding. The aneurysm was located in this area. Such hemostasis as was obtained at the time of direct opening was obtained by pressure of the assistant's thumbs and fore-

From the Surgical Service and the Dental Service, Veterans Administration Hospital, Oakland 12.

Submitted April 27, 1961.

fingers. No foreign bodies were found. The patient recovered promptly and was discharged on December 19, 1960.

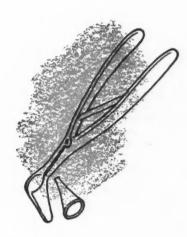
DISCUSSION

According to Pettiti and Jennings, the terms false aneurysm and pulsating hematoma are used interchangeably in the literature to designate any arterial tear which results in a blood-filled or clot-filled sac into which arterial blood continues to flow. The enclosure may consist of no more than a partially organized clot bound by muscle, fascia or skin surfaces, or it may be a fibrous, well-organized wall, depending on the site and duration of the lesion. False aneurysms in the region of the face are probably uncommon because the arteries about the face are usually of small caliber. In the large patient in the present case, however, it was noted at the time the right facial artery was ligated and sectioned that the vessel was large. There are reports of false aneurysm occurring in penetrating wounds of the extremities and about the neck where, the arteries being larger and the fascial planes definite, hematomas may more readily form. Trauma is the usual cause. False aneurysms are rare because as a rule when a large artery is pierced the companion vein is also pierced, making the formation of an arteriovenous fistula considerably more likely than an aneurysm. If there is complete severance of an artery, the ends of the severed artery retract and although a clot forms locally, the contiguity of the blood flow is broken. In light of the generous supply of collateral circulation about the face, it is not surprising at all that the aneurysm in the present case did not cease to pulsate when the right facial artery was ligated and sectioned. Ligating and sectioning the left facial artery, in addition to the right, probably would have been no more effective than was the procedure on the right artery only, for leading into this area from the left facial artery is a vast collateral circulation consisting mainly of the superior labial artery and the inferior labial artery.

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EDITORIAL

Discipline—Voluntary or Mandatory?

THERE HAS BEEN a growing tendency in recent years for inspired critics of the medical profession to treat the misdeeds of a few unscrupulous physicians as though they applied to the many.

Where there is a claim of an insurance bill being padded, or of overtreatment of a patient, or of any of a number of possible transgressions, some elements of our population have seized upon the opportunity to express criticism and to wield a broad brush of tar which coats all within reach.

In truth we do feel a sort of borrowed shame upon learning, as we do from time to time, that a member of our profession has meanly used his knowledge and the trust that ought always be its companion. Yet we know that such sins, whether they offend the laws that govern us all or the special ethics of our profession, are the sins of a very few. Although it would be surprising in any group of 200,000 people or more, no matter what their background or training, if a few did not turn up as scoundrels, we cannot let ourselves take comfort in the knowledge.

Fortunately, in the medical profession there are accepted ethical principles, inbred and inground, which serve as deterrents to all but the few. There are also laws, the laws under which we are licensed to practice and under which that license may be revoked.

Despite these safeguards, there are the gray areas which fall between the legal and the ethical. The physician who allegedly overtreats his patients may claim that he is exercising his best professional judgment. In this case he pits his judgment against that of his peers who believe they would secure comparable results with far less treatment. Who is to bring this man to book? And who catches up with a surgeon who too frequently removes normal tissue in a hospital that does not maintain proper safeguards?

These are only random examples of the need of adequate control of standards of the medical profession.

The major question today is: Who is to control the standards? Who is to handle the discipline?

Over the years, as scientific medicine has advanced, certain norms have been established which are known to and understood by all physicians. Uncomplicated cases of hysterectomy, tonsillectomy and various other procedures have been catalogued as requiring X number of days postoperatively. Where the norm is exceeded in vast degree, a specific case serves as a red flag for all to behold. Where complications are present, the length of time required for complete treatment will invite investigation by other observers.

Here is a simple example of the workings of the staffs of well organized hospitals. Staff review is likely to turn up the abnormal, the unusual.

Add the presence of a tissue committee, which has access to pathological reports, to statistics on normal recovery and the incidence of recurrence, and you have another element of discipline and review within a hospital staff.

Even the granting of staff privileges in a hospital permits the exercise of sound judgment. Where there is any question as to the capacity of an individual applicant, he may be placed on a probationary status until such time as he has proved his own judgment and ability. He may be required to seek consultation or to have his actual performance watched over by experienced seniors during his trial period.

In instances such as these, hospitals and physicians have long cooperated in raising standards to provide protection for patients. Admittedly, some hospitals are not fully effective in these functions but the number of those that fall short is growing smaller.

In our county medical societies we find another line of defense against unwarranted practices. Our

county societies maintain fee complaint committees, insurance committees or mediation committees, all designed to furnish a court of appeal for the patient. While many complaints brought before such committees turn out to be unwarranted, still the patient has been given his day in court, his opportunity to have his complaint heard and reviewed by qualified physicians. In practice, the degree of compliance with the decisions of such committees is extremely high. And the mere knowledge that there are such committees erects a disciplinary barrier against wrong-doing.

At the state level, state medical societies are working jointly with state hospital associations in formulating reasonable and effective standards to provide self-discipline. In one state a so-called integrated medical profession has been established, such as we are familiar with in the legal profession. Here a professional group has police powers over both ethical and legal transgressions, to the point of removing a license from a flagrantly guilty party. This is a new development which has both friends and foes; time alone will tell whether or not it is effective and workable.

In California, two laws are on the statute books which officially put some teeth into the control of evil-doers. One is the Cancer Council law; which establishes a council of experts who are empowered to call for the scientific testing of drugs and techniques in the field of cancer control and therapy and, where indicated, to obtain an injunction against a therapist whose methods are found lacking in scientific value.

The other is a law enacted several years ago, which allows ten or more practitioners licensed by a healing arts board to file a complaint and seek injunctive relief against another practitioner licensed by that board.

While these laws connote authority, both are based on the decisions made by licensed practitioners who use their own knowledge and judgment under the legal immunity granted by the state to its agencies.

The recent Governor's Committee on Medical Aid and Health has made several recommendations for the control of abuses. Where these are founded on private rather than public action they are worthy of consideration. Where they are based on the passage of additional legislation which would bring the state more completely into the picture, they are worthy of long and searching study.

Dwight D. Eisenhower, in a recent public address, commented that one advantage of a democracy is that it offers the opportunity for the individual to discipline himself. This truism is particularly applicable in any of the professions where the practitioner is one person giving personal service to another person.

Self-discipline is not only a necessity; it is an opportunity and a privilege. Principles of ethical conduct, standards of behavior, represent personal legal codes without which the public would have no protection and practitioners would have no protection from their fellows.

The medical profession in California has gone a long way in providing self-discipline that is practical and effective. If additional steps are needed at this time—and there will probably never be a time when they are not—the profession should look to its own ranks for the ideas and the leadership needed to produce them. To maintain its traditional authority to govern its own and to keep the privilege of self-discipline, it must exercise them.



The President's Page



Well Guided Is Twice Driven

"The Principle is more than half the whole problem."

THERE ARE TWO WAYS to judge horse-flesh—by appearance and by performance. Likewise there are two evaluations to that workshop of physicians, the hospital—by physical plant and by medical function. In evaluating the former, the present system has been satisfactory; for the latter, something has been wanting.

This deficiency is unavoidable in the system of the national program of the Joint Commission on Accreditation of Hospitals, However high the motives and principles of a national inspection team, it always elicits the "outsider" reaction in the group being surveyed. It is characteristic of a human group to resist and resent outside pressures. "Interference" by "foreigners" raises hostilities, cements prejudices and thwarts cooperation by the group. This tendency for closing ranks and drawing together reaches its apogee in the crumbling dictatorship that fabricates a war in order to unify a nation and divert attention from miserable situations at home.

Such, to a lesser extent, is the reaction of us all to outside inspections and controls. Such inspection teams often are considered "uninformed," or it is said of them that they "don't understand the local situation," or are from "big centers," or are composed of "paid doctors," etc.

Because of this resentment, there have often been resolutions before medical societies to do away with or modify the hospital accreditation methods of the joint A.M.A., A.H.A. and Colleges of Surgeons and Physicians program. Fortunately, your C.M.A. House of Delegates recognized the problems and diagnosed the defect. It was a matter of not having a method of judging the actual performance of doctors at the local level.

The National program does adequately evaluate the physical facilities of the hospital. So also apparently that part of services that is the "hotel part" of the institution. It is in the subtleties of professional services, usage and quality control that "out-of-staters" just can't get to the heart of the problem, no matter how they try.

Realizing this, our C.M.A. decided that at this level of hospital evaluation physicians and hospitals cannot be driven. Instead they must, at the local and regional level, be informed of the problem, guided in its analysis, concerned with its importance and participate in its solutions.

Thus, two socially responsible organizations, the California Hospital Association and the California Medical Association have mutually established rules in our state—the "Guiding Principles of Hospital-Physician Relations." These will permit a delicacy and subtlety in the evaluation of professional competence that are impossible to obtain except by physicians from the region.

It was with much pride that we announced to the press at the recent C.H.A. state meeting the remarkable feat that has resulted in all hospitals in San Diego County enrolling for receiving the C.M.A. inspection team. These teams of dedicated, selfless men, donating their time and abilities to a truly important program, are to be greatly admired. The participating medical staffs, learning the principles and being guided by them, will flourish. More important, the publication and the application of these principles are concrete evidence of medicine's acceptance of the responsibilities that go with the privilege of self-discipline.

Have you asked that your staff and hospital enroll?

Chan Batil MD.

Palifornia MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 473rd Meeting of the Council, Los Angeles, Biltmore Hotel, September 23, 1961.

The meeting was called to order by Chairman Sherman in Conference Room No. 2 of the Biltmore Hotel, Los Angeles, on Saturday, September 23, 1961, at the hour of 10 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall. Absent for cause, Secretary Hosmer and Councilor Kaiser.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Marvin, Klutch, Tobitt and Bowman, Doctors Batchelder and Miller and Mrs. Griffith of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California: county society executives Scheuber of Alameda-Contra Costa, Field and Dalbec of Los Angeles, Brayer of Riverside, Dochterman of Sacramento, Donmyer of San Bernardino, Nute and Burris of San Diego, Neick of San Francisco, Brown of Sonoma, Rideout of Butte-Glenn, Grove of Monterey, Blankfort of Marin, Monnich of San Joaquin; Dr. Malcolm Merrill, State Director of Public Health; Dr. Daniel Lieberman, Deputy Director of Mental Hygiene; Mrs. Eunice Evans, Deputy Director of Social Welfare: Dr. T. Eric Revnolds and Messrs. Thomas O'Dea and Webb Burke of California Physicians' Service; Dr. Richard Miller, president of Pasadena Medical Society; Dr. Packard Thurber, Jr.; Dr. Thomas Hanegan, president of Orange County Medical Association; Doctors Gerald W. Shaw, Eugene F. Hoffman, Donald Harrington and others.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 472nd meeting of the Council, held August 19, 1961, were approved.

2. Membership:

(a) A report of membership as of September 20, 1961, was presented and ordered filed.

(b) On motion duly made and seconded, 26 delinquent members whose dues have now been paid were voted reinstatement.

(c) On motion duly made and seconded in each instance, 14 applicants were voted Associate Membership. These were: Vera B. Fryling, Louis F. Saylor, Alameda-Contra Costa County; Aida Therese Sereno-Berlese, Fresno County; Olga Daiber, Victor J. Fish, John Martin Hiss, Jr., Arthur Wexler Silver, William Gaines Slate, Los Angeles County; Robert T. Gardner, Sacramento County; Eugene G. Miller, San Francisco County; George L. Harper, Donald Hoyt, Daniel B. Leiva, San Luis Obispo County; William Gentry Dick, San Diego County.

(d) On motion duly made and seconded in each instance, four members were granted Retired Membership. These were: Waldo Frederick Brinkman, Gerhard Danelius, Jerome W. Shilling, James Gatrell Ware, Los Angeles County.

WARREN L. BOSTICK, M.D President
OMER W. WHEELER, M.D President-Elect
JAMES C. DOYLE, M.D Speaker
IVAN C. HERON, M.D Vice-Speaker
SAMUEL R. SHERMAN, M.D Chairman of the Council
RALPH C. TEALL, M.D Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D Secretary
DWIGHT L. WILBUR, M.D Editor
HOWARD HASSARD Executive Director
JOHN HUNTON Executive Secretary
General Office, 693 Sutter Street, San Francisco 2 • PRospect 6-9400
ED CLANCY Director of Public Relations
South and California Officer

Southern California Office: 2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341 (e) On motion duly made and seconded, reductions of dues were voted for nine members now doing postgraduate work.

3. Public Relations:

Dr. Malcolm Watts, chairman of the Committee on Public Relations, gave a progress report and recommended that added emphasis be placed on communications. He suggested that outside counsel be brought in to evaluate the entire field of public relations and communications. On motion duly made and seconded, it was voted to approve this recommendation in principle and to refer to the Committee for Emergency Action and the Chairman of the Finance Committee the investigation of details.

On motion duly made and seconded, a vote of confidence to Dr. Watts in his public relations work was extended by the Council.

Attention was called to a new advertisement of California Physicians' Service, in which freedom of choice of physician and the value of the physician-patient relationship were stressed. On motion duly made and seconded, C.P.S. was voted commendation for this type of advertising.

4. Medical Education:

On motion duly made and seconded, it was voted to authorize the Committee on Committees to select eight nominees for membership on an expanded finance committee to be established by the Board of Trustees of the California Medical College, such nominees to be members of this Association.

5. State Department of Public Health:

Dr. Malcolm Merrill, State Director of Public Health, reported that two public meetings had been scheduled for October on the question of poliomyelitis vaccinations. He asked cooperation in the preparation and distribution of public releases on this subject.

Dr. Merrill also reported that federal Hill-Burton funds for hospital construction would amount to about \$9,000,000 for California this year, an increase of about \$1,000,000 from the preceding year.

Dr. Merrill further reported that one crankcase device for automobiles had already been approved in the anti-smog campaign, that a second would be approved soon and that auto exhaust devices, two of which must be approved by next year, were under study.

6. State Department of Social Welfare:

Mrs. Eunice Evans, deputy director of the State Department of Social Welfare, reported that methods have been developed to protect welfare funds against abuses and to protect the vendors of medical and other services. She also stated that funds for care of needy children were being overdrawn and that some services would have to be curtailed. Food supplements, formerly provided under excess needs funds, would not become a part of the medical care program, she said.

7. State Department of Mental Hygiene:

Dr. Daniel Lieberman, deputy director of the State Department of Mental Hygiene, reported on progress being made on development of a master plan for the care of the mentally ill, to be presented to the 1963 Legislature. He requested continuing cooperation with appropriate committees. He also reported that while the census of mental hospitals is about 1,000 patients less than it was a year ago, there is a growing waiting list for the mentally retarded; plans are being completed for construction of one additional state hospital for the retarded on property owned by the state in the San Fernando Valley.

8. California Physicians' Service:

Dr. John G. Morrison, board chairman of C.P.S., reported that C.P.S. will retain state employees already carried under medical care prepayment plans and will also make a joint offering with Blue Cross for state employees who will receive financial aid from state funds for such care. He also reported that the contract committee was investigating a comprehensive prepayment plan and that plans are being made for a new offering for the over-65 age group, to replace the present plan.

Dr. T. Eric Reynolds, C.P.S. president, reported that dependents of service personnel will continue to receive medical services under the Medicare program and that fees for these services will continue under the existing structure, which contemplates a \$4,500 average annual income for recipients. It was pointed out that present fees are based on the 1957 Relative Value Studies; on motion duly made and seconded, it was voted to publicize the continuation of this program but to point out that the Association does not approve the use of 1957 tabulations in developing a fee structure but does recognize that this is the basis used by the Department of Defense at this time.

On motion duly made and seconded, it was voted to reaffirm a House of Delegates decision to the effect that only the 1960 Relative Value Studies would be used for future fee discussions.

9. Report of President:

President Bostick reported on meetings with management and labor representatives of the steel industry and on several recent appearances before large groups. He also discussed the regional hospital

concept and the possibility of strengthening the Board of Medical Examiners for disciplinary purposes. On motion duly made and seconded, it was voted to continue studying these two subjects through the Judicial Commission and the Liaison Committee to the California Hospital Association.

10. Report of President-Elect:

President-Elect Wheeler, reporting for the Committee on Committees, submitted a list of 12 names of ophthalmologists to be submitted to the State Department of Social Welfare as an advisory board on ophthalmology. On motion duly made and seconded, this list was approved.

Dr. Wheeler and Councilor Murray also reported on a meeting held in Fresno with C.M.A. officers and representatives of staff, the county supervisors and state and local health officers, to investigate possibilities for a prepaid health care program for agricultural workers.

11. Committee on Legislation:

Mr. Hassard reported that public hearings had been set, starting September 27 in San Francisco, by the Senate Interim Committee on Public Health. These hearings will investigate the possibility of requiring new labeling or other safeguards for specified new and potent drugs, The Association will be represented by Councilor Murray.

12. A.M.A. Delegation:

Dr. Wilbur reported that the American Medical Association had created a new committee to review the entire public relations program and procedures of the Association. Dr. Eugene F. Hoffman of California is a member of this committee.

Dr. Wilbur also reported that a committee has been established by the House of Delegates to review the responsibilities, size, terms of office, tenure and other details of the Board of Trustees and that he, Dr. Wilbur, had been named chairman. He asked for suggestions. This committee results from resolutions, including those from California, introduced into the A.M.A. House of Delegates,

13. Commission on Medical Services:

Dr. Donald Harrington, chairman of the Commission on Medical Services, reported that the commission had referred to the Committee on Fees the problem of a national professional fee index proposed by the Blue Shield organizations, He also reported that consideration was being given to the subject of comprehensive medical care plans, referred to the commission by the Council.

Dr. Harrington further reported that the commission wished to gather additional information on income ceilings and fee schedules, that the cost of

such studies would run about \$1,500 to \$2,000 and that there was sufficient balance in the commission budget to transfer the needed funds to the Bureau of Research and Planning for the study. It was reported that C.P.S. already has considerable material which would be useful. On motion duly made and seconded, it was voted to approve such a study, utilizing the material already available and transferring funds only if this were necessary.

Dr. Harrington also proposed that a pilot study be made in San Joaquin County to determine the feasibility of providing a prepaid health service for OASI beneficiaries, to allow them a choice of several types of program or no program at all, and to provide deductions from OASI checks for the cost of the program selected. He asked authority, as an individual and not as chairman of the commission, to investigate this proposal to see if such a plan is practical under Social Security, and he asked that the Council provide him with a letter of introduction to Social Security officials in Washington.

After considerable discussion, in which a letter of introduction was denied, it was regularly moved, seconded and voted that Dr. Harrington should be authorized to contact the C.M.A. staff to have it inform him as to the particular individuals in Washington whom he should interview for the purpose of proposing a pilot program in San Joaquin County.

14. Finance Committee:

Chairman Teall of the Finance Committee presented condensed balance sheets for the Association and the Trustees of the C.M.A. as of August 31, 1961, and a statement of income and expenditures for August and the two months ended August 31, 1961. These were reviewed and ordered filed.

15. Speakers' Bureau:

Dr. Teall gave a progress report on the Speakers' Bureau and its activities to date in preparing material for both statewide and local use.

16. Bureau of Research and Planning:

Chairman Gerald W. Shaw of the Bureau of Research and Planning, presented two reports, one in response to Resolution No. 58 of the 1961 House of Delegates relative to the supply of physicians in California and one on the costs of hospitalization. On motion duly made and seconded, it was voted to refer both reports back to the House of Delegates and to make them available for publication.

Dr. Shaw reported that the Bureau had been requested to make a study of appropriate compensation for physicians engaged in part-time industrial health work. Such a study would require an unspecified amount of additional funds. No action was taken.

17. Annual Meeting of County Officers:

Dr. Malcolm Todd reported that plans for the 1962 Conference of County Society Officers call for a two-day meeting on February 17 and 18, to include a discussion of the quality of medical care. Those to be invited would include the president, president-elect, secretary, one delegate and two key committee chairmen. Dr. Shaw had earlier suggested that the grievance or review committee chairman be one of the latter. On motion duly made and seconded, it was voted to approve the plans made for this meeting.

18. Commission on Community Health Services:

Councilor MacLaggan, chairman of the Commission on Community Health Services, reported that the hospital liaison committee had developed plans for completing a county-wide survey of hospitals in a two-day period and that the first of these programs would be carried out immediately preceding the annual meeting of the California Hospital Association, where Dr. Bostick could present an up-to-theminute report.

19. Medical Practice Cost Accounting:

Dr. Winston Hall, president-elect of the San Diego County Medical Society, requested action on a 1959 House of Delegates resolution asking for a cost accounting study of the cost of conducting a medical practice. It was agreed that staff members should pursue this subject.

20. Legal Department:

Mr. Hassard reported on the incorporation of California Medical Education and Research Foundation as a nonprofit organization which would qualify for receipt of tax-deductible grants for qualified research projects. By-laws must be developed and he suggested that the voting members of the corporation be the members of the Council and that a board of directors of seven be appointed to include the chairman of the Finance Committee and the chairman of the Bureau of Research and Planning. On motion duly made and seconded, these proposals were approved.

Mr. Hassard also reported that county activities covering closed-chest resuscitation procedures varied widely from one area to another and that uniformity was desirable. It was moved, seconded and voted to refer this to the appropriate scientific committee or section for study and report.

Mr. Hassard further reported that the Interim Committee on Judiciary of the State Assembly will meet to review the subject of professional corporations.

21. Commission on Professional Welfare:

Chairman Kirchner of the Commission on Professional Welfare presented an article on informed surgical consent which had been prepared for the commission for publication. On motion duly made and seconded, it was voted to approve the article and to recommend its publication.

22. Commission on Cancer:

Councilor Davis, chairman of the Commission on Cancer, reported that a film on carcinoma of the rectum had been prepared by the American Cancer Society and was available for showing. On motion duly made and seconded, it was voted to approve the showing of this film to selected audiences.

Dr. Davis also reported that Dr. David Wood is requesting the Department of Health, Education and Welfare to provide funds for a program of training employees of tumor boards. On motion duly made and seconded, it was voted to approve such a training program and to support the request for funds.

23. Scientific Activities:

Dr. Bostick, as chairman of the committee to review the recommendations of the earlier ad hoc committee on scientific activities, recommended against a proposal to hold an evening meeting, open to the public, during the Annual Session. On motion duly made and seconded, it was voted to approve Dr. Bostick's recommendation.

24. C.M.A. Newsletter:

Dr. Bostick suggested that a committee be appointed to review the publication of *Newsletter* and to make recommendations for the future. Such a committee, he said, should be appointed jointly by the Committee on Committees and the Committee on Public Relations.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:00 p.m.

SAMUEL R. SHERMAN, M.D., Chairman JOHN HUNTON, Acting Secretary

AMENDMENTS TO CONSTITUTION

Amendments to the Constitution of the California Medical Association are required to lie on the table for one year before being voted upon. Seven proposed amendments to the Constitution were introduced in the 1961 House of Delegates. Under the terms of the Constitution, these were subject to review by the Reference Committee in the 1961 House of Delegates and will also be reviewed by Reference Committee No. 4 in the 1962 House before being voted upon in that session.

In some instances the Reference Committee suggested that proposed amendments to the By-Laws, which need lie on the table only twenty-four hours, also be deferred until 1962 because of their association with constitutional amendments on the same subject. In the section on By-Law Amendments following this section, such deferral will be noted.

The following Amendments to the Constitution were offered in 1961, all of them placed on the table for definitive action in 1962.

CONSTITUTIONAL AMENDMENT No. 1

Author: Samuel R. Sherman. Representing: The Council.

Resolved: That Article I, Section 5, of the Constitution of the California Medical Association shall be amended, by adding a new sentence at the end of the present section reading as follows:

"Notwithstanding the foregoing, one charter may be issued to a component society that is not limited as to geographical area or which overlaps the area covered by one or more existing component societies.";

and be it further

Resolved: That Article II, Part B, Section 10, be amended by deleting the word "ten" in the first sentence of the section and substituting therefor the word "eleven" and by adding at the foot of the section the following language: "District No. 11, comprising such areas as may be encompassed by a component society chartered in accordance with the terms of Article I, Section 5, of this Constitution, relating to the issuance of charters in excess of one in any county."

CONSTITUTIONAL AMENDMENT No. 2

Author: Samuel R. Sherman. Representing: The Council.

Resolved: That Article III, Part B, Section 10, of the Constitution of the C.M.A. shall be amended

by adding the following sentence as a separate subparagraph of said section:

"District No. 11, consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

CONSTITUTIONAL AMENDMENT No. 3

Author: James MacLaggan. Representing: San Diego County.

Resolved: That Article III, Section 2, of the Constitution, which now reads:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates."

is hereby amended to read as follows:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of one delegate."

CONSTITUTIONAL AMENDMENT No. 4

Author: Los Angeles delegation.

WHEREAS, the alternate delegates are duly elected representatives of the physicians in their districts; and

WHEREAS, the wishes of the physicians in a district will be best represented by a vote of all of their elected representatives; now, therefore, be it

Resolved: That the Constitution of the California Medical Association be amended as follows:*

ARTICLE III—Government of the Association Part A—House of Delegates

Section 1—Composition. (b) Alternate Delegates elected by members of component societies and seated in the place of absent delegates. Present (b), (c) and (d) to be changed to (c), (d) and (e).

Section 2—Representation. As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates or Alternate Delegates.

Section 3—(Alternates) Alternate Delegates. (Alternates) Alternate Delegates shall be elected, as

^{*}Language deleted shown in parentheses; new language shown in italics.

specified in the By-Laws, in the same manner as delegates are elected. One Alternate *Delegate* shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

Section 4—Terms of Delegates and (Alternates) Alternate Delegates. Delegates and (alternates) Alternate Delegates shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5—Quorum, A majority of the authorized number of delegates or alternate delegates seated in their places shall constitute a quorum.

Section 11-Election of Councilors, District councilors shall be elected by vote of the delegates and Alternate Delegates from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected. his name shall be submitted to the House by the Chairman of the Delegation from the district, and (1) if there is no challenge by any delegate or Alternate Delegate seated in place of a delegate then the speaker shall declare his election completed, and (2) if any delegate or Alternate Delegate seated in place of a delegate shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the president, president-elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a threefourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the district councilor and the delegates and Alternate Delegates from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

CONSTITUTIONAL AMENDMENT No. 5

Author: Alameda-Contra Costa delegation.

WHEREAS, under the present Constitution of the California Medical Association, Associate Members are not eligible for leave of absence for either illness or postgraduate study; and WHEREAS, the financial burden is as great on an Associate Member as on an Active Member under these circumstances; now, therefore, be it

Resolved: That Article IV, Section 3 of the C.M.A. Constitution be amended to read: "The Council, on recommendation of a component society, may grant leaves of absence to active and associate members who are seriously ill, etc..."

CONSTITUTIONAL AMENDMENT No. 6

Author: Jerome Klingbeil.

Representing: Los Angeles County (Long Beach).

WHEREAS, a more even and democratic balance must prevail in the California Medical Association and that no county society should have the potential to exceed 50 per cent of the state association membership; and

WHEREAS, when a county medical society encompasses such territory and has a membership larger than a great majority of state medical associations, they cannot properly represent or govern their highly dispersed area groups with widely divergent economic, social, and public relations problems; and

WHEREAS, in such large unwieldy societies effective communication between the governing officers and the members represented is often inadequate and occasionally nonexistent; and

WHEREAS, the strength of organized medicine is most effective when broad participation of the medical profession at a local level is implemented; and

WHEREAS, in large county societies inequities tend to arise in outlying component districts in regard to insurance, legal matters, fees and available facilities; and

WHEREAS, in such large county societies, problems of the peripheral area groups regardless of acuteness or degree of local need often must be ignored or deferred to the routine mechanics of day-to-day business application; and

WHEREAS, precedence for district autonomy within a geographic county area has been established elsewhere; and

WHEREAS, there is no mechanism existing in the present Constitution and By-Laws of the C.M.A. to allow large district components of county societies to become direct component parts of the C.M.A.; now, therefore, be it

Resolved: That the California Medical Association initiate changes in its Constitution and By-Laws which will permit any established district of a county society to withdraw from that county society and become a direct component part of the California Medical Association; and be it further

Resolved: That the California Medical Association amend its Constitution and By-Laws as follows:

A. ARTICLE I, Section 4—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) or any established component district of at least 300 members of a county society which has exercised option to withdraw from that county society and set up a separate component society, heretofore or hereafter, chartered by this Association.

B. ARTICLE I, SECTION 5-Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county except where an established component district of at least 300 members of a county society has elected to be a separate component society. C. ARTICLE III, SECTION 7(a)—Issuance and Revocation of Charters

The House of Delegates shall issue charters to medical societies of any county, any component society of at least 300 members which has exercised its option to become autonomous or to any group of counties deemed eligible which have made proper application therefor.

CONSTITUTIONAL AMENDMENT No. 7

Author: Ian Macdonald.

Representing: Los Angeles County.

Resolved: That Article III, Part A, Section 3 of the Constitution of the California Medical Association shall be amended to read as follows:

"Section 3—Alternate Delegates. Alternate delegates shall be elected as specified in the By-Laws in the same manner as delegates are elected; one alternate delegate shall be elected for each two delegates of a component society, and alternate delegates shall be seated in place of any delegate absent, or disqualified for failure to attend meetings, or other cause."

BY-LAW AMENDMENTS

Several proposed amendments to the By-Laws introduced in the 1961 House of Delegates were, on recommendation of the Reference Committee and vote of the House, deferred for consideration until 1962. These are shown here as introduced in 1961 and as identified, numerically, in the 1961 meeting.

The Reference Committee also suggested that a special committee be established, to review all such deferred amendments. This committee, which has been established by the Council, will review all amendments to the Constitution and the By-Laws which relate to the structure of the Association. Where a By-Law amendment has been referred to this special committee, this referral is noted at the foot of the amendment.

Shown below are all amendments to the By-Laws introduced in 1961 and deferred for action in 1962.

BY-LAW AMENDMENT No. 1

Author: Samuel R. Sherman. Representing: The Council.

Resolved: That Chapter II, Section 3(b) of the By-Laws of the California Medical Association shall be amended by inserting after the second sentence of said Section 3(b) a new sentence to read as follows:

"A physician and surgeon licensed by the State Board of Osteopathic Examiners on or before September 30, 1962, who holds a degree of Doctor of Medicine issued to him by the College of Osteopathic Physicians and Surgeons (or its successor), and whose license to practice medicine and surgery is unrevoked and unsuspended, is eligible for election to active membership in a component society. However, in the event that a charter is outstanding to a state-wide component society, none of such persons shall be permitted to join any component society other than the state-wide component society, without the express consent of such state-wide society."

ACTION: Deferred for action until 1962 in conjunction with Constitutional Amendments No. 1 and No. 2.

BY-LAW AMENDMENT No. 6

Author: James MacLaggan. Representing: San Diego County.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis of one Delegate for each component society plus one Delegate for each 75 active members or major fraction thereof and that an automatic review of the size of the House of Delegates shall be made every six years by the Council of the California Medical Association and that to accomplish this, Chapter V, Section 2, of the By-Laws which now reads:

"Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; providing, however, that each component society shall be entitled to a minimum of two delegates."

is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate plus one additional delegate for each 75 active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; and that every six years subsequent to 1963 the Council of the California Medical Association shall automatically review the size of the House of Delegates and make appropriate recommendations."

ACTION: Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 15.

BY-LAW AMENDMENT No. 10

Author: Los Angeles delegation.

WHEREAS, all the delegates do not attend the caucus of the district delegation; and

WHEREAS, the alternate delegates are expected to be oriented and prepared to vote on all matters coming before the House of Delegates; and

WHEREAS, the interest of the alternate delegates will be greatly stimulated by being allowed to actively participate in the decisions of the district delegation: and

WHEREAS, such increased interest on the part of the alternate delegates will be advantageous to all physicians in California; now, therefore, be it

Resolved: That the By-Laws of the California Medical Association be amended as follows:*

CHAPTER V-House of Delegates

Section 1-Secretaries of Component Societies to Furnish Lists of Delegates and (Alternates) Alternate Delegates. Each component society shall elect the number of delegates and (alternates) alternate delegates to which the component society is entitled. At least sixty days prior to the next scheduled session the Secretary of each component society shall forward to the secretary of the Association, on forms provided by the Association, the names and addresses of these delegates and (alternates) alternate delegates, and shall certify thereon the terms of service of each individual.

Section 2-Representation. Commencing with the 1952 regular session of the House of Delegates, each

of Delegates, and who has failed to give fifteen days' notice to the secretary of the Association of his inability to be present, shall thereupon be dis-

qualified as a delegate and, in addition, ineligible for reelection as a delegate or (alternate) alternate delegate for three years immediately succeeding the expiration of his term; except that the Committee on Credentials may excuse absence on presentation

component society shall be entitled to one delegate

or alternate delegate for each fifty (50) active members or major fraction thereof, according to its

membership as of the first day of September of the

preceding year; provided, however, that each com-

ponent society shall be entitled to a minimum of

and Alternate Delegates. Only duly elected delegates

or (alternates) alternate delegates may be seated at any session of the House of Delegates, unless the

secretary of the Association has been given due

notice of substitution at-least fifteen (15) days in

Section 4-Disqualification of Delegates or (Al-

ternates) Alternate Delegates for Absence From a

Session. Any delegate absent without good cause

from two or more consecutive meetings of the House

Section 3-Limitations on Seating of Delegates

two delegates or alternate delegates.

of good cause therefor.

advance of the session.

Section 5-Notification of Delegates and Alternate Delegates. The secretary of each component society promptly shall notify in writing each delegate and alternate delegate immediately after his election to such office, and shall expressly direct each delegate's and (alternate's) alternate delegate's attendance to the provisions of Section 4 above.

Section 6—Qualifications of Delegates and (Alternates) Alternate Delegates. At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate delegate.

Section 10-Duties of Credentials Committee. The secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The secretary shall give this committee a list of component societies, showing the total membership as of September 1 of the preceding year. This committee shall ask each delegate and alternate delegate to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the secretary of the Association at least fifteen days before the beginning of the annual session.

^{*}Language deleted shown in parentheses; new language shown in italics.

The committee shall make a written report to the House of Delegates of the delegates and (alternates) alternate delegates entitled to membership therein.

Section 12-Loyalty. The Committee on Credentials shall require each delegate and alternate delegate who desires to be seated as a member of the House of Delegates, to subscribe to the oath or affirmation in the form required for officers under Section 3 of Chapter XIII. In the event of refusal to subscribe to such oath, the Credentials Committee may at its discretion refuse to include such person in its written report to the House of Delegates designating the delegates and (alternates) alternate delegates entitled to membership therein. Any person refused a seat by action of the Credentials Committee shall have the right to appeal to the House and by majority vote the House may overrule the Credentials Committee and seat such person as a delegate.

CHAPTER VIII-Election of Officers: Terms

Section 6-Election of District Councilors in Districts Having One Councilor. At least twenty-four hours prior to the second meeting at each annual session of the House of Delegates the delegates and alternate delegates from those districts in which councilor vacancies are about to occur shall separately meet, and in each district the delegates and alternate delegates shall elect a chairman and a secretary. At such caucus the delegates and alternate delegates in each district shall by nomination, secret ballot and majority vote of the delegates and alternate delegates present elect a district councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates and alternate delegates from the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district councilor from such district. The alternate delegates shall have a vote on all actions taken by the caucus meeting of the district delegation.

Section 6.5—Election of District Councilors in Districts Having More Than One Councilor. Immediately on the adoption of this section, and in succeeding years at least twenty-four hours prior to the second meeting at each annual session of the House of Delegates, the delegates and alternate delegates from those districts in which more than one councilor vacancy exists or is about to occur shall separately meet and in each such district the delegates and alternate delegates shall elect a chairman and a secretary. The alternate delegates shall have a vote on all actions taken by the caucus or meeting of the district delegation.

At the first such caucus in each such district, the aggregate number of vacancies existing shall be divided into Offices No. 1, No. 2 et seq. with Offices No. 1, 4 and succeeding increments of three carrying an initial term of one year and thereafter terms of three years; with Offices Nos. 2, 5 and succeeding increments of three carrying initial terms of two years and thereafter terms of three years; and with Offices Nos. 3, 6 and succeeding increments of three carrying initial terms of three years and thereafter terms of three years. Where new offices are created under the terms of Article III, Part B, Section 9(a) of the Constitution, each such new office shall be numbered serially with those already existing and shall carry an initial term extending to the same date as has previously been established for offices in the same numerical sequence, thereafter a term of three years.

Nominations shall then be received for each individually numbered office in which a vacancy exists, and in each instance where there is more than one nomination election shall be by secret ballot and majority vote of the delegates and alternate delegates present and voting. The chairman of the district delegation shall then report to the House of Delegates the results of the election, and when such report is made, the members elected shall thereupon assume office as district councilors, subject to the provisions of the Constitution and By-Laws.

At the second and succeeding caucuses the delegates and alternate delegates in each such district shall by nomination, secret ballot and majority vote of the delegates and alternate delegates present and voting, elect district councilors for each individually numbered district councilor office from such district for which a vacancy is about to occur, and the chairman of the district delegation shall report at the second meeting of the House of Delegates the results of the election, and when such report is made, the member or members elected shall assume office as a district councilor or district councilors, subject to the provisions of the Constitution and By-Laws.

The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent of the delegates and alternate delegates of the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each Annual Session; except that on the adoption of this section the speaker shall immediately announce a time and place for the immediate caucus of each district that is at the time of said adoption, entitled to more than one district councilor.

In the event there are more than two nominees at any district caucus for any of the individually numbered offices of district councilor in said district and none of such nominees receives a majority of the votes cast on the first ballot, the nominee receiving the smallest number of votes on such ballot shall be eliminated and a second ballot shall be taken on the remaining nominees, such process to continue until one such nominee shall receive a majority of the votes cast.

ACTION: Referred to special committee for study.

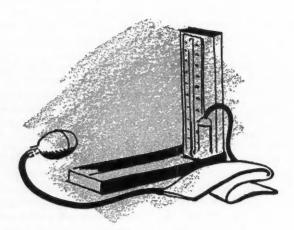
BY-LAW AMENDMENT No. 15

Author: Los Angeles delegation.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis for each component society of one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate, and that to accomplish this, Chapter V, Section 2 of the By-Laws, is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate."

ACTION: Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 6.



Relationship of Occupational Medicine to Private Practice

THERE CAN BE no real distinction drawn between the work of physicians in occupational medicine and that of private practitioners. Every physician, whether in private practice or in occupational medicine, must at some time apply principles of occupational medicine in the treatment of his patients. In the future all physicians will be called upon more and more to practice rehabilitation or some other phase of occupational medicine.

The total adjustment of an individual to his health and environment should be of equal interest and importance to men in occupational medicine and those in private practice. These two branches of medicine should work as a team toward a common goal. Private physicians and physicians in occupational medicine have a common responsibility for bringing the benefits of medicine to the "total man" or the "whole man" in relation to the community in which he dwells. Every medical history on a private patient should include the questions, "Where do you work?" and "What do you do?"

Preventive medicine is the largest single benefit received by the employee through occupational medical practice.

The most important preventive measures are the various physical examinations in industry, which include: Pre-placement, periodic or annual, post-illness and special examinations.

By reporting to his private physician for correction of any defects detected, the employee improves his health and increases his longevity, bringing long-range benefits to his family and community. The private physician benefits by referral of a patient to him soon enough in many instances to prevent irreparable damage.

The periodic or annual physical examination is to counsel the employee throughout his working career in matters that will help him to improve or maintain health, to safeguard the health and safety of others and to discover and control the effects of possible unhealthful exposures in the working environment.

The physician practicing occupational medicine may benefit his employer and the community by keeping the maximum number of workers functioning at an optimum level of efficiency, and by guiding the employee in the correction of defects by using the services of private practitioners in his community. Approximately 50 per cent of employees who are examined each year are found to have defects requiring correction and are referred to their private physicians and dentists.

Close cooperation between physicians in occupational medicine and those in private practice can help to maintain smooth patient relationships in difficult situations involving sick leave and other benefit plans in industry.

Plant physicians frequently examine workmen returning to the job after a serious illness. The plant physician usually has the final responsibility for determining the patient's physical limitations as they relate to his placement on the job, since he is in a better position to understand the job requirements, working conditions or occupational hazards in a given plant. He is also aware of the number of light-duty or modified-duty jobs available. The plant physician should contact the private physician and supply necessary information on job requirements, working conditions or occupational hazards. The private physician is then in a better position to discuss with his patient the need for further treatment and observation before the patient returns to work.

COMMITTEE ON OCCUPATIONAL HEALTH CALIFORNIA MEDICAL ASSOCIATION

NEXT MONTH: ARE YOU UP TO DATE?

^{*}This is the second of a series of articles prepared by the Committee on Occupational Health.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

STATE AND FEDERAL FUNDS totaling \$21,703,218 will be allocated this month by the State Advisory Hospital Council for the construction of community hospital facilities in California.

The state-federal funds, which represent twothirds of project costs, will be allocated in six categories; general and psychiatric hospitals, long-term care facilities, public health centers, rehabilitation facilities and diagnostic and treatment centers.

Applications for 60 projects at a total cost of \$113,400,000 have been submitted to the Bureau of Hospitals.

Thirty-seven students from 25 medical schools in the United States participated this summer in the State Health Department's third training program.

The students were assigned to 14 bureaus and laboratories, and took part in some 25 specific research and field projects. The training program is supported by grants from the National Institutes of Health and the Federal Office of Rehabilitation.

The department stepped up its environmental radiological surveillance activities shortly after Russia resumed atmospheric testing of nuclear weapons on September 1.

The first trace of fallout in California was noted ten days later. Since that time airborne radioactivity levels have fluctuated considerably. To date, the west coast has received much less fallout than the rest of the country.

The first and best indicator of general fallout levels is the amount in the air as measured by pulling air through filters which are then analyzed for radioactivity. The air measurements are of interest primarily as they are indicative of what food and water will contain later. As long as airborne levels remain low, little additional radioactivity is to be expected in food and water.

In the southeastern part of the United States, where fallout has been heaviest, significant quantities of iodine-131 have been found in milk. As this is perhaps the most sensitive indicator of contamination levels in food, we are intensifying the sampling of milk throughout California to analyze for this particular isotope. On the basis of our air data, we expect levels of iodine-131 in California milk to be far lower than those reported from the southeast.

The U. S. Public Health Service has instituted a program of assigning to a few of the larger state health departments several residents in radiological health. The program has the dual purpose of providing residency training for the assignees, and of strengthening the radiological health programs of the departments to which they are assigned.

Phenylketonuria is now eligible for diagnosis and treatment under the department's Crippled Children Services. It occurs once in every 20,000 to 40,000 live births and is found in either sex and among all races. While the incidence of this disease is rare, its effects are serious. If it is detected early enough, however, it can be controlled by a special diet.

Any child who has a urine test positive for phenylketone bodies, or a sibling of a patient known to have the disease, is now eligible for diagnosis. Treatment services may be provided when the diagnosis has been confirmed at one of the approved medical centers, in accordance with that center's recommendation.

The two centers that are approved in the treatment of children with this condition are the Neurological Diagnostic Center at the University of California in San Francisco and the Neurological Diagnostic Center at Children's Hospital, Los Angeles.

- In Memoriam -

Barnes, William Hutt, Chico. Died August 21, 1961, at Banff, Alberta, Canada, aged 84. Graduate of the University of California School of Medicine, San Francisco, 1921. Licensed in California in 1921. Doctor Barnes was a member of the Alameda-Contra Costa Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.

BLOCK, HARRY HILTON, Los Angeles. Died July 28, 1961, in Los Angeles, aged 54, of heart disease. Graduate of the Chicago Medical School, Illinois, 1935. Licensed in California in 1958. Doctor Block was a member of the Los Angeles County Medical Association.

CARROLL, ANTHONY G., Martinez. Died September 11, 1961, in San Jose, aged 62, of bronchopneumonia, and cirrhosis of the liver. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1924. Licensed in California in 1933. Doctor Carroll was a member of the Alameda-Contra Costa Medical Association.

COLTRIN, GILBERT SPENCER, Claremont. Died September 13, 1961, in Claremont, aged 53. Graduate of the University of Rochester School of Medicine and Dentistry, New York, 1934. Licensed in California in 1936. Doctor Coltrin was a member of the San Bernardino County Medical Society.

DeLancey, Chester Arthur, San Rafael. Died September 12, 1961, in Ross, aged 70. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1920. Licensed in California in 1920. Doctor DeLancey was a member of the Marin County Medical Society.

DIEFENBACH, WILLIAM E., La Jolla. Died September 16, 1961, in La Jolla, aged 72. Graduate of the University of Buffalo School of Medicine, New York, 1914. Licensed in California in 1927. Doctor Diefenbach was a member of the San Diego County Medical Society.

FAUST, ROBERT, Sherman Oaks. Died September 23, 1961, in Santa Monica, aged 56, of heart disease. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1928. Licensed in California in 1949. Doctor Faust was a member of the Los Angeles County Medical Association.

Grams, L. F. (La Verne), Ontario. Died September 25, 1961, in Ontario, aged 49, of heart disease. Graduate of the State University of Iowa College of Medicine, Iowa City, 1945. Licensed in California in 1955. Doctor Grams was a member of the San Bernardino County Medical Society.

GUIDINGER, WILLIAM E., San Pedro. Died August 9, 1961, in San Pedro, aged 70, of heart disease. Graduate of the College of Physicians and Surgeons, Los Angeles, 1917.

Licensed in California in 1917. Doctor Guidinger was a member of the Los Angeles County Medical Association.

HICKS, ROBERT ALAN, Richmond. Died September 16, 1961, in Oakland, aged 58, of pulmonary congestion and edema. Graduate of the University of Michigan Medical School, Ann Arbor, 1930. Licensed in California in 1943. Doctor Hicks was a member of the Alameda-Contra Costa Medical Association.

JANES, DALZIEL O'CONNOR, Long Beach. Died August 28, 1961, aged 54. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1930. Licensed in California in 1930. Doctor Janes was a member of the Los Angeles County Medical Association.

LEVINE, SAMUEL, Hayward. Died September 30, 1961, in Hayward, aged 57, of carcinoma. Graduate of the Medical College of Virginia, Richmond, 1935. Licensed in California in 1945. Doctor Levine was a member of the Alameda-Contra Costa Medical Association.

McNiff, Thomas Patrick, Campbell. Died May 6, 1961, aged 46, of coronary occlusion. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1950. Licensed in California in 1950. Doctor McNiff was a member of the Santa Clara County Medical Society.

SHEELEY, FAYE G., Long Beach. Died September 10, 1961, in Long Beach, aged 51, of heart disease. Graduate of the Indiana University School of Medicine, Indianapolis, 1942. Licensed in California in 1952, Doctor Sheeley was an associate member of the Los Angeles County Medical Association.

SKALETAR, EDWARD ALBERT, Los Angeles. Died September 19, 1961, in Los Angeles, aged 62, of acute coronary occlusion. Graduate of Marquette University School of Medicine, Milwaukee, Wisconsin, 1926. Licensed in California in 1926. Doctor Skaletar was a member of the Los Angeles County Medical Association.

SNYDER, CRAYTON CHAMBERS, Pasadena. Died September 21, 1961, in Pasadena, aged 85, of coronary thrombosis. Graduate of the College of Physicians and Surgeons of San Francisco, 1902. Licensed in California in 1904. Doctor Snyder was a member of the Los Angeles County Medical Association.

WILLIAMS, WILLIAM FRANK, Oakland. Died September 8, 1961, in Oakland, aged 65, of cerebral anoxemia. Graduate of the University of California School of Medicine, San Francisco, 1926. Licensed in California in 1926. Doctor Williams was a member of the Alameda-Contra Costa Medical Association.

Howard Christian Naffziger

1884-1961

Editor's Note: Dr. Naffziger was a very distinguished California physician. A native of California, he was largely trained in this state and rose to a position of tremendous influence and importance as teacher and practitioner in the development of his special field of neurologic surgery. He was a pioneer in the West in surgical education and training, and the program he established greatly influenced the careers of hundreds of young surgeons. His influence in positions and organizations of national and international importance raised the stature of medicine in the University of California and throughout the state.

HOWARD CHRISTIAN NAFFZIGER was born in the small mining town of Nevada City, California on May 6, 1884. He died on March 21, 1961 at his home at the age of 76 after a brief illness.

Dr. Naffziger was the only child of Christian Jacob and Lizzie Scott Naffziger. He attended Nevada City High School and graduated from Berkeley High School in 1901. He received his higher education at the University of California at Berkeley, and was awarded the degree of B.S. in 1907, M.S. in 1908 and M.D. in 1909. He then served as intern and resident surgeon at the University of California Hospital. Dr. Naffziger obtained the position of assistant resident surgeon at Johns Hopkins under Halsted, who subsequently was recognized as the founder of a new era in American surgery. At Johns Hopkins, Dr. Naffziger not only received inspiration as a surgeon but came to recognize that Dr. Halsted's residency system for the education and training of young surgeons, now in general use throughout the country, was immensely superior to existing methods. In addition, he became aware of the need for experimental research programs in medical schools and the need to train and develop young men for academic careers in medicine.

Returning to San Francisco Dr. Naffziger joined the faculty of the University of California School of Medicine serving from 1912 to 1951. He was professor and chairman of the Department of Surgery from 1929 to 1947 and was professor and chairman of the Department of Neurological Surgery from 1947 to 1951, when he became Professor Emeritus. He was appointed a Regent of the University by Governor Earl Warren in 1952.

Dr. Naffziger served with the Medical Corps of the United States Army in World War I and was appointed Chief of the Surgical Service at the Letterman General Hospital following his return to San Francisco after the war. In 1919 he rejoined the faculty of the University, and during the same year he married Louise McNear, a member of a prominent San Francisco family. After accumulating wide experience in every field of surgery, he then limited himself after World War I to neurological surgery, and with Harvey Cushing, was among the very first in America to specialize in this field.

The early years of his professional career were devoted to teaching and working with young men in the development of a first class surgical center. His recognition of the importance of applying basic science to clinical medicine and surgery, and his stimulation of his students toward research resulted in the establishment of the experimental research laboratories at the medical school. He was the first to introduce to the West Coast the surgical residency system as we know it today.

Dr. Naffziger's surgical accomplishments are too numerous to mention. Outstanding was his work on the mechanism of progressive exophthalmos and the surgical method he developed for the prevention of its inevitable blindness. He was honored by an invitation to give the Hunterian Lecture at the Royal College of Surgeons of England on this subject in 1954. He was the first to observe that the radiopacity of the pineal gland could be used as a method of localizing brain tumors by x-ray. The sign which bears his name was developed by him in the application of jugular compression in the diagnosis of certain spinal conditions. He recognized and publicized the scalenus anticus syndrome and devised new operative approaches for many surgical procedures.

Dr. Naffziger served as president of the San Francisco County Medical Society, the California Academy of Medicine, the Pacific Coast Surgical Association, the American Surgical Association, the American Neurological Association, the Society of Neurological Surgeons and the San Francisco Neurological Association. He was a member of the advisory council of the American College of Surgeons, of which he was president and for 16 years a Regent, and founder of its Northern California Chapter. Dr.

Nafiziger was a founder of the American Board of Surgery and the American Board of Neurological Surgery, and was chairman of the latter for a tenyear period. He was also a director and trustee of the Franklin H. Martin Memorial Foundation, member of the Western Surgical Association, International Society of Surgery, International Neurological Association, American Association of University Surgeons, Harvey Cushing Society, World Medical Association, Society of University Surgeons, and the Howard C. Naffziger Surgical Society, which was composed of his former residents.

He served in the American Expeditionary Force in France and was a member of the Surgeon General's staff in World War I. During World War II he served on the National Research Council as a consultant for the Office of Scientific Research and Development, and was chairman of the subcommittee on neurological surgery and a member of the surgical committee. He surveyed the surgical services in military hospitals for the Surgeon General of the United States Army in the British Isles from June through August of 1943, and the Mediterranean theater from August to September of that year. He represented the Surgeon General at the first Conference on Penicillin which was held in Tripoli in 1943. In the winter of 1950-51 he served as civilian consultant in the Korean War and later conducted many inspection tours of military hospitals for the Surgeon General in Western Germany and France in 1954 and 1957.

He was awarded a Certificate of Appreciation by the Secretaries of the Army and the Navy in 1948 and served as Senior Civilian Consultant in neurological surgery to the Surgeon General up to the time of his death, and was honorary consultant for the library of the Surgeon General.

Dr. Naffziger served on the editorial advisory boards of six well-known scientific journals in the fields of surgery and neurological surgery. In his devotion to public service, he served as chairman of the Medical Mission to Poland for the Unitarian Service Committee under the auspices of U.N.N.R.A. in 1946. He was chairman of the medical mission to the Philippines under the auspices of the World Health Organization in 1948 and was appointed visiting professor to the National Defense Medical Center and University of Taiwan Medical

School in 1952. He was a member of the American Red Cross Advisory Board and the San Francisco Bay Area Community Chest.

Dr. Naffziger was awarded many honorary memberships and honors, such as Honorary Fellow of the Royal College of Surgeons of England, Fellow of the Royal Society of Medicine of England, and Fellow of the Philippine College of Surgeons. He was elected to honorary membership of eleven scientific societies in this country and abroad. In 1944, the *Journal of Nervous and Mental Diseases* published a Festschrift in honor of his birthday, composed of contributions from colleagues, former students and associates. In 1954, six of the leading national and foreign journals in surgery and neurological surgery published a special issue in honor of his birthday.

Dr. Naffziger was zealously devoted to the cause of medicine, the care of the sick, the education and training of young men and women in medicine, the elevation of the standards of surgery, and the welfare of his country.

Dr. Naffziger's outstanding intellectual characteristic was his ability to perceive the essential features and basic principles at the core of every problem which he faced. He was never distracted by minutiae or inconsequential matters, and his dispassionate analytical deductions led him to valid and meaningful conclusions. It was qualities such as these that led the great British neurologist, Sir Charles Symonds, head of Neurology at the National Hospital, Queens Square, London, to say that if he were personally faced with a complex neurological problem he would turn to Dr. Naffziger for help in preference to all other men in this field. Dr. Naffziger's outstanding personal characteristics were most readily appreciated by his patients, but may not have been so obvious to others unless they were fortunate enough to have been associated with him or to have seen him at the bedside. His true compassion, humanitarianism, sympathetic attitude and strength of character were recognized and valued by his students and colleagues over a period of many decades.

Dr. Naffziger is survived by his wife, Louise Mc-Near Naffziger, and three daughters, Marion Ann Orrick and Jean Louise Thacher of Washington, D.C., and Elizabeth Stern, whose husband is professor of neurological surgery at the University of California at Los Angeles, and by ten grandchildren.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

UNTIL TWO YEARS AGO the Woman's Auxiliary to the California Medical Association had within its organization a committee on Public Relations, even though realistically the entire function of the Auxiliary is to establish good public relations between the medical profession and the nonmedical members of the community by building greater understanding of the objectives and activities of the medical profession. All the major committees of the Auxiliary are devoted to some phase of public relations.

Then two years ago a field not previously stressed was introduced to the membership. It was the place of the Auxiliary and the individual auxiliary member, working outside the well defined framework of the Auxiliary on community projects and in community organizations. It was to this phase of auxiliary work that the Community Service Committee was dedicated. This committee took over the work formerly done by the Public Relations Committee, which was then dissolved.

The theme for this year of the Woman's Auxiliary to the American Medical Association is "Speak Your Beliefs in Deeds." Surely no better way could be found to support this than to "speak our beliefs in deeds of service to our communities through the community service program of our county auxiliaries."

The goals of this committee, as outlined by the National Auxiliary, are two-fold. First, that each member support activities within the community, and second, that each member work within other civic, education and service groups. This year the emphasis will be placed on the promotion of the "Homemaker Services."

The community Homemaker Service is a locally sponsored, nonprofit agency that places trained women workers in homes where illness, disability or the absence of a parent might disrupt the normal family routine. They take over household tasks such as marketing, cooking, light cleaning and caring for children. Service is part-time only for as long as needed. No nursing care is given by the homemaker.

The committee on Community Service, Woman's Auxiliary to the American Medical Association has completed a 32-page manual designed to assist communities in establishing a Homemaker Service. The new publication titled "How to Plan a Community Homemaker Service," will be available shortly.

We are adding Homemaker Services to our list of community service projects for our county auxiliaries in cooperation with other agencies in the community.

Community service will vary from county auxiliary to county auxiliary depending on the needs of the community it serves. I should like to think an Auxiliary is flexible enough to develop new community service projects when need arises and drop old ones when there is no longer a need for them (of course after consultation with the county medical association).

Service to the community through the medical Auxiliary is the finest way I know to build a bridge of understanding between the physician and the nonmedical community. Each auxiliary member is encouraged to support activities within the community. Each task she performs well, each service she gives willingly brings honor to her Auxiliary and to the medical profession.

MRS. HERMAN H. STONE

Chairman, Community Service, Woman's Auxiliary to the California Medical Association

INFORMATION

The California Academy of General Practice Its Objectives and Development

THE California Academy of General Practice—with its 3,000 plus members and 30 county chapters—is the largest "special interest" group operating within the membership of the California Medical Association. Because of its considerable influence, its actions are of concern to every physician in the state.

Founded in 1948 as a chapter of the American Academy of General Practice, the group is completely independent of the California Medical Association. It does, however, recognize C.M.A. as the "parent" medical organization and will not consider anyone for membership until he is a C.M.A. member. It intentionally avoids participation in C.M.A. politics or duplication of C.M.A. activities and makes every effort to cooperate with the state medical society's policies. Medicine, already too splintered, has no room for medical organizations that place their own special interest above those of medicine as a whole.

Objectives

Before the Academy was organized the general practitioner had become a nonentity. If a doctor didn't specialize, he was a GP. That's all it required. Specialists had achieved considerable status through their own associations—GP's had none. No one was interested in developing the family doctor as a person specifically trained for a specific field. No one was trying to improve his training, let alone encourage anyone to enter the field. There were many instances of wholesale dropping of GP's from hospital staffs.

These were the conditions which led to the formation of the Academy. Its objectives were to develop a strong and representative organization exclusively for general practice; set and raise standards; improve hospital, public and professional relationships; improve postgraduate opportunities; and encourage general practice as a career. Some of these goals have virtually been achieved; others may take years to reach.

Membership Requirements

Academic entrance requirements are not as stringent as are those of the specialty boards, and 84

per cent of the applicants are ultimately accepted. Remaining a member, however, is another matter. Unlike any other medical group, the Academy elects members for only three year terms. At the end of that time a member must have completed 150 hours of postgraduate work. Last year 47 members were dropped for failure to keep up, and in some years the number has been as high as 100. The vast majority, however, do far more than the required amount of postgraduate work.

In spite of its rigidly enforced requirements, the Academy has had a substantial gain in its total membership. Growing at the rate of close to 200 new members per year it now represents well over 60 per cent of the family physicians.

Scientific Activities

The Academy's annual meeting is rated as one of the best scientific meetings in the country. It is kept clear of politics and draws from the finest teaching talent available in the United States. Local county chapters hold an additional 200 scientific meetings during the year—so combined with medical school and C.M.A. educational efforts, members have an abundance of excellent scientific programs to qualify for their continuing membership requirements.

Medical Schools

Medical schools have been severely criticized for not having GP's on their teaching faculties and for not exposing students to general practice. In California, however, the University of California, Stanford, U.C.L.A. and the University of Southern California work in close cooperation with the Academy-sponsored summer preceptorship program. Some 300 students have taken advantage of this program to spend two weeks of their vacation time with a physician in general practice. Such exposure has been responsible for a number of students choosing general practice as a career. Many have returned to practice with their preceptors. The program has been of equal value for weeding out the occasional student who intends to enter general practice but changes his mind after he realizes what is required to be a good GP.

Someday the Academy hopes to see the general practitioner have more of a voice in medical education within the schools. It feels this will come as the standards of general practice continue to rise and as general practice becomes better defined.

Residency Training

The average medical student, looking towards general practice, worries and wonders about the training he may be getting to prepare him to be a

well-qualified GP. While there is, as yet, no complete agreement over what constitutes the best GP residency, a growing number of members feel that if general practice residencies are to attract top caliber students, they must be equal or better than the training programs offered for the major specialties. They feel that the absolute minimum for anyone entering general practice today should be a oneyear internship plus two years of a well-organized, well-supervised general practice residency. It has been shown that GP's trained under such programs have no problem with hospital privileges and are able to provide their patients with a wide range of service of excellent quality. This view is supported by the fact that many one-year programs are unfilled, while many of the better, lower pay two-year programs have more qualified applicants than they can possibly consider.

Another encouraging factor is that the residency applicants, in a growing number of cases, are of an exceedingly high quality. In one major university both the top and next to top men in the class are taking general practice residencies despite the fact that in their school a scant 20 per cent of the class is going into general practice. If enough effort is given to quality the matter of quantity will eventually take care of itself.

Hospitals

The Academy has conducted intensive studies of hospital staffs and hospital relationships. One of these completed in 1956 showed that less than 6 per cent of the general practitioners in California had any complaints as to their hospital privileges. This same study repeated this year produced *identical* results. Another study of all California hospitals showed less than 3 per cent had no GP's on their staffs, and this included the university teaching hospitals. This and other studies show that the GP is more than holding his own in hospitals.

The Academy completely supports the Joint Commission on Accreditation of Hospitals, C.M.A.'s Guiding Principles, and has recently sponsored conferences on medical audits in an effort to get them introduced in California. It feels that in many cases hospital controls have been too lax and that there is a great deal of room for staff education and improvement. However, it wants rules to be applied to all physicians on the staff and vigorously opposes hospital regulations which give special privileges to favored groups. Applying this policy to itself, it has been equally quick to oppose some hospitals which have required that GP's on their staff be Academy members.

Members are expected to take part in local hospital affairs and current statistics show that they

are most active. One out of three members serves on hospital committees and 15 per cent hold key roles as chief of staff or head a department. Many of these are in large, metropolitan hospitals where specialists may outnumber GP's.

Public and Professional Relations

Virtually every Academy activity is concerned with improving the public and professional relations of the profession. The Academy distributes a large number of its own publications, publishes a bimonthly bulletin, and supplies articles for a number of other medical journals. One of its stories published last year on the British Health System as viewed by the GP was reprinted for a circulation of over five million copies.

In a step toward improving interprofessional relationships the Academy recently sponsored a oneday conference on hospital medical audits. The conference was so successful that two more are planned for Los Angeles and San Francisco this November, this time drawing in specialists and hospital administrators.

The Internist as the Family Doctor

The Academy recognizes the value of the internist as a consultant and also the fact that many internists are serving as family physicians. However, it doesn't look upon the internist as a "competitor," realizing that he is often forced into the role of family physician not by choice but because of the relatively large number of internists and the shortage of GP's.

Some internists' groups have run into strong opposition from the Academy over the matter of fees. The Academy supports the basic principle of the California Medical Association that fee schedules, when they exist, must be based on service rather than a variety of factors including the physician's experience, overhead and training. The physician should be compensated for his training but this compensation should come when this special training is applied to the patient and not on routine cases where the patient receives no particular benefit by virtue of being treated by a specialist,

Attitude Toward Surgical Privileges

The Academy agrees with the American College of Surgeons that there is room for improving surgical care. It does, however, disagree with the college's methods of going about this. While the Academy fully recognizes the importance of adequate formal training, it insists that standards and supervision must apply to all doctors on the staff, regardless of qualifications. Board certification of a surgeon may give a certain assurance of his ex-

posure to technical training, but unfortunately, it does not insure his integrity. His "certification" is not subject to review nor has it ever been removed once it has been received. A board-certified surgeon may do operations poorly or unnecessarily or do "ghost" operations or split fees just as any other physician may do. He should be subject to the same rules as anyone else.

The Academy does feel that there are some very strong arguments for training the physician so that he will be able to provide his patients with both medical and surgical care for the more frequently seen conditions. Since many conditions can be treated either medically or surgically, the physician who does both is in an ideal position to make a proper diagnosis and to choose the treatment that has the best chance of success.

Who Runs the Academy?

The principal governing body is a Congress of Delegates made up of representatives from county chapters. It is a forum before which the problems of the general practitioner are discussed. One of its chief responsibilities is the election of a president and an 18-man board of directors who have the major responsibility for Academy policies. The board in turn employs a full-time executive secretary as the executive officer of the association. He is assisted by two other employees in carrying out the day to day operations. Five standing committees assist the board: constitution, hospital, education, program and public and professional relations.

Board of General Practice

The Academy, both nationally and in California, has opposed the formation of a board of general practice. The concept of a board violates one of its basic precepts, i.e., each physician should be given the opportunity to demonstrate his competence, and not be judged primarily on the basis of certification or membership in any specialty society. There is nothing to prevent the Academy from accomplishing everything for general practice that a board might achieve—especially in relation to improving standards of general practice residencies. The physician who is well-trained and practices within his limitations seldom gets into difficulties regardless of certification.

The Future of General Practice

The need for more GP's is the most critical problem facing the Academy. Its long range attack on this problem is to concentrate on improving the quality of residency training available. In the meantime it feels that general practice has much on its side. The place of the GP in the hospital has improved considerably; the incomes for GP's have become adequate; the GP is able to exert his full time skill in the practice of medicine and surgery, and he is winning the respect and confidence of the medical schools through preceptorship programs and serious concentration on postgraduate medical training.

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Nine First Street, San Francisco 5.

Costs of Hospitalization

A Report by the Bureau of Research and Planning

RESOLUTION No. 93, introduced at the 1961 Annual Meeting of the California Medical Association House of Delegates, requested a study of hospital costs and current trends in hospital management. Its primary purpose, as reflected in the "whereas" portions of the resolution, was to differentiate between the costs of hospital and professional services in the spectrum of health care protection in order to provide the medical profession and the public with greater insight into some of the factors contributing to increasing expenditures for health care.

A few statistics will demonstrate the central role of the hospital in the provision and financing of health care services. According to the Department of Commerce, 26 cents, the largest proportion of every dollar spent in 1960 for private health care, went to hospitals. In California, 1.8 million persons spent over 11.5 million days in acute, short-term, general nonfederal hospitals during a one-year period 1958-1959. The 1.8 million represented 90 per cent of admissions to all types of hospitals and accounted for 30 per cent of all patient days. It has been estimated that the cost to the public of these services was \$438 million, or 58 per cent, of all nonfederal expenditures for hospitalized care. According to Hospitals, the average length of stay in

Approved by the Council of the California Medical Association, September 23, 1961.

TABLE 1.—Average Dally Service Charges—U. S. and California

Type of Accommodations	United States	California		
Single bed	\$20.00	\$28.70		
Two-bed		24.30		
Three-bed		23.00		
Four-bed		22.30		
Five-bed		22.50		
Six or more		18.80		

		Range in Ten Metropolitan Areas														
	onmetropolitan	Low													High	
Single bed	\$23.49	\$20.60	(Fresno)							to					\$31.10	(S.FOakland)
Two-bed	20.18	19.00	(Stockton)							to					32.11	(Santa Barbara)
Three-bed	19.25		(Stockton)													(S.FOakland)
Four-bed	17.09	16.70	(Stockton)							to						(Sacramento)
Five-bed																(San Jose)
Six or more																(Santa Barbara)

acute, short-term, general hospitals in California was 6.3 days (7.5 days for all short-term general hospitals) at an average cost of \$38.20 per patient day.²

A 1960 survey for the American Hospital Association of daily service charges alone (room, food, routine nursing care and minor medical and surgical supplies) for adult inpatients among a group of five thousand short-term general and special hospitals in the United States revealed the information presented in Table 1.

The average daily service charges in nonmetropolitan areas of California and the range of such charges among ten metropolitan areas of California were as shown in Table 2.

Nationally, length of stay in general and special hospitals decreased from 13.7 days in 1940 to 9.6 days in 1959—due to advances in medical science. Days in hospital per person (2.8 days) for the total population was about the same in 1959 as in 1940.

The number of patients admitted to all hospitals in the United States has increased from about 10 million in 1940 to more than 23.5 million in 1959; the admission rate rose correspondingly from 76 to 133 per 1,000 population.

One measure of the growth of hospital utilization is the increase in hospitalized births. The number of such births has risen from less than 1½ million in 1940 to more than 4 million annually. The proportion of babies born in hospitals has increased from 56 per cent to about 96 per cent.

With more and more patients being admitted to hospitals for diagnosis and treatment, the number of terminal cases has been rising. They increased from nearly 644,000 in 1949 to over 877,000 in 1958. Deaths in hospitals were 53 per cent of all deaths during 1958, against 45 per cent in 1949.

Although Resolution No. 93 cites the "alarming rate" at which hospital costs have continued to climb, the bureau has learned that some hospital administrators feel that current costs are not now high enough for present and future needs. Many administrators expect hospital costs to rise by 5 to 10 per cent each year (since World War II they have risen about 9 per cent annually).

The facts are that, from 1940 to 1960, rates for room, board and general nursing in general hospitals have more than quadrupled. They have gone

TABLE 3.—Relation of Hospital Cost Increases to Rises In Other Items

	1940	1960	Per Cent Increase 1940-1960
Consumer price index	59.9*	126.5	111
All medical care items	72.7	156.2	115
Physicians' fees	74.7	145.2	94
Hospital room rates	50.4	223.3	343
Prescriptions and drugs	83.2	122.8	48
Dentists' fees*1947-49=100.	70.1	137.3	96

up almost two and a half times as fast as fees of physicians and dentists, four times as fast as drug prices, and about three times as fast as all items or services in the consumer price index (Table 3).

In answer to criticism from the public, hospital administrators reply that the entire character of the hospital and its role in the provision of medical services have changed radically in the past 20 years, and that the modern hospital has had to adapt itself to meet the demands which both the public and physicians have made upon it. The hospital today is represented as a complex organization providing hotel, laundry and restaurant service besides being pharmacy, clinic, surgery and teaching institution.

Highly specialized equipment is an essential part of the institution. Cobalt, x-ray and artificial heartlung machines which did not exist years ago, and whose costs may range upward to \$50,000, are commonplace. Eye banks, blood banks and bone banks; facilities such as postoperative recovery rooms and premature nurseries; major ancillary services (one study showed that eleven major ancillary services appeared in 20 per cent more hospitals in 1956 than during 1950)—all are innovations which have contributed to mounting costs. Labor costs have been a major factor. In 1958, 65 per cent of the total operating expenses of hospitals represented the wages and salaries of hospital employees; in 1946 it was 46 per cent.

As the Report of the Governor's Committee on Medical Aid and Health states¹:

"The wages and salaries of health workers are likely to play an even more important part in future health costs as their traditionally low wages rise until they approach those of comparable nonmedical occupations."

Thus, increasing levels of wages, increasing union-

ization, and competition with other industries for manpower exert their pressure on the upward movement of costs. And accompanying rising labor costs has been the reduction in hours worked by hospital personnel. The 70-hour split-shift week has been reduced to about 42 hours, resulting in more hospital employees. Also a greater variety of paramedical personnel has developed as the technology of medicine has become more complex and refined. Hospitals magazine reports that the number of paid employees averages about 2.2 per patient day—100 per cent more than in the late thirties, and 47 per cent more than in 1947.

The components of the hospital costs of a 300-bed hospital, selected in one study as representative of the experience of 108 general hospitals in a large metropolitan area,⁴ reveal that:

- In 1937, 17.5 cents of each dollar went toward defraying hospital nursing services; such services accounted for 25 per cent of all expenditures in 1959.
- In 1937, 6 per cent of hospital expenditures went for pharmacy and medical supplies as against 10.5 per cent in 1959.
- In 1937, x-ray and laboratory represented 6.5 per cent of expenditures, as compared with 9.5 per cent in 1959.
- In 1937, operating room, delivery room and other professional services accounted for 8 per cent of expenditures as against 13 per cent in 1959.
- In 1937, 10 per cent of all expenditures were for administration and general services as compared with 15 per cent in 1959.

While the foregoing represent areas of increased expenses, the following represent two areas where per cent of expenditures decreased.

- In 1937, nutrition services accounted for 27 per cent of total hospital expenditures as against 12 per cent in 1959.
- In 1937, 25 per cent of hospital expenditures went toward housekeeping, laundry and maintenance as compared with 15 per cent in 1959.

The new techniques and procedures involved in the management of illness, while decreasing the length of hospital stay, have also contributed to higher daily hospitalization costs. Occupancy rates are also factors in hospital costs. In 1958, the occupancy rate in all short-term general hospitals was approximately 75 per cent. With the annual operating cost per occupied bed estimated at around \$9,000, the unoccupied bed represents part of overhead which affects the total cost of hospital operations.

The role of hospitals as teaching and training institutions for nurses, particularly in graduate

education, represents another significant element in costs. Another cost factor is that of greater remuneration to interns and residents, although many believe that these salaries are at present insufficient.

The foregoing constitutes a brief review of the reasons cited for increasing costs of hospital care. They do not include elements such as the effects of population growth, greater use of hospital and medical services, the surge in hospital insurance and prepayment protection which has resulted in more admissions to the hospital, and hospital admissions for diagnostic studies that might otherwise have been done on an outpatient basis.

As the Somers's state in their book, Doctors, Patients, and Health Insurance:

"Critics accept the basic validity [of the reasons mentioned above] but are distressed because many hospital officials are insisting on the inevitability of indefinitely continued increases."

The rash of studies and investigations by insurance commissioners in a number of states is a symptom of this distress. Physicians and the general public, alike, are alarmed at the reluctance with which new economies and techniques are introduced into hospital operations—despite the findings of several studies such as that of the Commission on Financing of Hospital Care and despite some of the innovations in the management of patient care, such as home care and progressive patient care. Many hospital administrators, among other students of the problem, feel that the medical profession and the public must bear an increasing share of the responsibility to resolve the problem of increasing hospital costs, and that the physician should play a more vital and central role in: (1) Educating the public with regard to proper use of hospitals, and (2) assuming greater responsibility for that portion of hospital costs for which he is directly or indirectly responsible. In this regard, most commonly heard criticisms relate to unnecessary admissions, length of hospital stay, and over-use of diagnostic tests and equipment. Some of these abuses are referred to in an A.M.A. report to its House of Delegates at the 1961 annual session in New York.3 And some of the criticism has been directed to various practices and the nature of quality controls in proprietary hospitals, (The bureau has had made available to it the results of a study among a large group of employees utilizing voluntary and proprietary hospitals in Southern California. The data reveal that over an eight-month period in 1957-58 in a basic plan of coverage: (1) The average operating room charges for six selected types of surgical confinements were greater by 16.6 per cent in proprietary hospitals than in voluntary hospitals, (2) average laboratory charges were 23.8 per cent higher in proprietary hospitals, and (3) average total ancillary charges were 38.5 per cent higher in proprietary hospitals. As to total ancillary charges for nonsurgical confinements, the average in proprietary hospitals exceeded that in voluntary hospitals by 11 per cent. Charges were less for proprietary hospitals by 11.5 per cent for average length of nonsurgical confinement, and less by 8 per cent for average nonsurgical laboratory services.

Among the many proposals which have been made to reduce hospital costs are several which the Bureau of Research and Planning feels physicians should seriously consider and attempt to implement in communities in which they practice. If they have not already done so, county medical societies should be encouraged to develop appropriate liaison mechanisms and hold informal conferences with hospital administrators and medical staff representatives, as well as with members of the public, to determine how best to achieve the objective as to which all are apparently in agreement. No single, hard and fast rule or set of recommendations will apply equally to all hospitals. Immediate and long-range objectives can best be determined by responsible community leaders-with the medical profession assuming the responsibilities and obligations reguired of it. Therefore:

1. Hospitals should continue to encourage philanthropic support by communities, corporations, foundations and individuals to meet deficits or to plan for improvement of services.

2. A careful determination of community needs should be made before: (a) Scope of hospital service is established or expanded, and (b) capital expenditures for construction and equipment are made.

3. Hospitals should budget income and expenditures on a realistic basis, basing such determinations on the possibility of: (a) Joint purchasing, (b) joint surveys of community needs to eliminate duplication of equipment, and (c) combining recruitment and training programs.

4. Medical staffs should develop and establish medical audit procedures which may reveal unnecessary use of facilities and any need for changes in admission and discharge procedures.

5. Methods should be developed to reduce prolonged use of hospital beds and promote early referral to special facilities for the management of chronic illness in convalescent or nursing homes and rehabilitation facilities.

 Physicians should evaluate the extent to which they themselves order laboratory tests in order that there can be no criticism dealing with over- or unnecessary use.

7. Studies should be made to determine the most effective utilization of all hospital personnel, so that the more skilled personnel are not assigned tasks

which relatively unskilled persons may perform under proper supervision.

8. Pharmacy costs should be looked into, so that prescribing by generic, rather than brand names, becomes a routine procedure.

Better accounting methods should be instituted for proper determination and allocation of costs, and

10. Education of the public should be promoted as to the reasons for increasing hospital costs, and as to the necessity of purchasing voluntary health insurance which will provide for outpatient care.

Illustrative of the efforts being carried out in this state to meet the problem of rising costs is the publication, in 1960, by the California Hospital Association of its Uniform Accounting Manual.7 This manual was the culmination of a four-year study participated in by many experts in the accounting field. The California Hospital Association has informed the Bureau of Research and Planning that "the majority of hospitals in the state have now begun to install this uniform system." Another step. currently under way and planned for completion in 1962 by the C.H.A. is a Cost Allocation Manual. These systems, together with its "Guiding Principles for Hospital Charges," "will be far-reaching steps in hospital business practices," according to Mr. Avery M. Millard, executive director of the California Hospital Association.

Within the past few years, increasing public concern with rising expenditures for hospital care has made the medical profession acutely aware of the fact that much of the "blame" is being placed on its shoulders. Unfortunately, the attitude that "others" are looking into the problem has acted as a soporific in a number of instances. The costs of hospitalization will be stabilized when physicians, hospital administrators and other responsible members of every community make a concerted, organized and conscious effort to institute the controls, establish and police the safeguards which alone can retard the increase in hospital costs.

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The Informed Surgical Consent

A Report by the Joint California Medical Association-California Hospital Association Medicolegal Education Committee

When a patient consults a physician, he is seeking professional advice and help. In a legal sense, if the physician agrees to treat or consult, he enters into a contract with the patient. When a physician makes recommendations, the patient may decline to follow them in whole or in part. The physician cannot control what the patient will do. When the physician recommends a surgical procedure, the patient must decide whether he will or will not consent to the operation. The decision to have the operation, except in cases of emergency, can only lawfully be made by the patient or his parent or guardian.

In recent years, several physicians have been sued by patients who were injured in the course of an operation and it was alleged and proven that they did not consent to the operation. If it can be proven that a patient did not knowingly consent to a procedure, the physician is considered to have committed a personal trespass and may be sued for damages in an action based upon the legal theory of assault and battery.

The courts have held that before an ordinary citizen can give a valid consent to an operation, he must know about the hazards of that procedure. Since the physician is the one who has been engaged by the patient as his personal advisor, it is the physician's duty to carefully inform the patient about the problems that might reasonably result, in order that the patient may give an intelligent answer or consent.

Recently, Mr. Bernard D. Hirsh, director of the law department of the American Medical Association, wrote an article which was published in the Journal of the American Medical Association, issue dated May 6, 1961, entitled "Informed Consent to Treatment." It is an excellent summary statement of the recent cases in which physicians have been held to have failed to give a patient the information needed in order to give an informed consent. Mr. Hirsh graciously has permitted it to be reprinted.

To be legally valid, the consent given to a procedure must be an intelligent or informed consent, with an understanding of what is to be done and the risks involved.

In Bang v. Charles T. Miller Hospital, 251 Minn. 427, 88 N.W.2d 186 (1958), the plaintiff consented to a transurethral prostatic resection. In performing the operation, the defendant surgeon severed the plaintiff's spermatic cords. The plaintiff, who brought an action for assault or unauthorized surgery, testified that nothing had been said concerning the fact that he would be rendered sterile by

the operation. There was uncontradicted testimony at the trial that severance of the spermatic cords—bilateral section and ligation of the vas—is routine in cases of patients the age of the plaintiff, for otherwise there is a possibility of infection.

At the close of the plaintiff's evidence, the case was dismissed on its merits but on appeal the trial court was reversed and a new trial ordered. The Supreme Court of Minnesota held that in the absence of an emergency, the patient should have been informed before the operation that if his spermatic cords were severed it would result in his sterilization but if this were not done there would be a possibility of infection. The court concluded that on the basis of the record it was a question for the jury whether the plaintiff consented to the performance of the operation.

In principle, the case recognizes that a patient is entitled to the material facts regarding contemplated surgery. Under the circumstances, had the patient been aware of all the facts, he might have chosen to reject surgery or, having chosen surgery, he might have preferred to run the risk of infection rather than have his spermatic cords cut.

Professor Allen H. McCoid* expressed this opinion in a law review article:

If the sole basis of reason for bringing an action is . . . disappointment as to the outcome of the operation, there is no real loss in denying recovery. On the other hand, serious objection may be raised to denying recovery where the reason for bringing the action is failure of communication by doctor to patient. The proper solution of this problem, in the opinion of the author, is to recognize that the doctor owes a duty to his patient to make reasonable disclosure of all significant facts, i.e., the nature of the infirmity (so far as reasonably possible), the nature of the operation and some of the more probable consequences and difficulties inherent in the proposed operation. It may be said that a doctor who fails to perform this duty is guilty of malpractice.

This article was cited in support of the rule requiring an informed consent in Natanson v. Kline, 186 Kan. 393, 350 P.2d 1093 (1960). The plaintiff sued a radiologist, alleging she suffered injuries as a result of cobalt irradiation therapy and that the hazards had not been explained to her prior to treatment. The jury found in favor of the radiologist on the issue of alleged negligent treatment. The lower court refused to instruct the jury on the question of "informed consent." In ordering that the case should be retried, the Kansas Supreme Court stated:

In our opinion the proper rule of law to determine whether a patient has given an intelligent consent to a proposed form of treatment by a physician . . . compels disclosure by the physician in order to assure that an informed consent of the patient is obtained. The duty of the physician to disclose, however, is limited to those disclosures which a reasonable medical practitioner would make under the same or similar circumstances. How the physician may best discharge his obligation to the patient in this difficult situation involves primarily a question of medical judgment. So long as the disclosure is sufficient to assure an informed consent, the physician's choice of plausible courses should not be called into question if it appears, all circumstances considered, that

^{*}McCoid, A. H.: Reappraisal of liability for unauthorized medical treatment, Minn. Law Rev., 381:427, 1957.

the physician was motivated only by the patient's best therapeutic interests and he proceeded as competent medical men would have done in a similar situation.

The decision in Natanson v. Kline emphasized the fact that cobalt irradiation is a new therapy that requires explanation. A similar case in Virginia, Hunter v. Burroughs, 96 S.E. 360 (1918), dealt with x-ray therapy when it was also a relatively new therapy. The plaintiff's legs and ankles were badly burned and ulcerated as a result of x-ray treatment for eczema. He brought an action for malpractice in which he charged the defendant physician with (1) negligent treatment and (2) failure to warn him of the danger of possible bad consequences. The plaintiff alleged that if the de-fendant physician had made known to him that there was great danger that x-ray treatment might result in burns and ulcers, he would not have permitted the treatment and the injuries complained of would not have occurred. The plaintiff alleged further that the defendant physician misled him not only by failing to warn him of the danger but also by affirmatively assuring him that x-ray treatment would cure his eczema within 8 weeks. On appeal, the Supreme Court of Appeals of Virginia sustained the verdict of the jury for the plaintiff.

The court held that there was sufficient proof of negligence to sustain the jury's verdict. Therefore, the court did not consider it necessary to determine whether there was sufficient evidence to sustain the charge that the plaintiff had been misled into submitting to x-ray treatment. However, on this score the court stated as a rule of law that failure of a physician "to warn a patient of the danger of possible bad consequences of using a remedy . . . is not per se an act of negligence." However, when the defendant has "misled" the plaintiff by "the positive assurance of cure," there is "a good cause of action."

In a Missouri case, Mitchell v. Robinson, 334 S.W.2d 11 (1960), a malpractice action was brought against a psychiatrist and his associates for convulsive fractures sustained by a patient undergoing insulin shock therapy for emotional illness. The principal defendant testified that fractures frequently occur when insulin shock therapy is properly administered. The jury awarded the plaintiff \$15,000 damages, and the question on appeal was whether there was any evidence to support the jury's finding of negligence. On the ground that the jury's instructions were misleading and confusing, the court ordered a new trial, stating:

In the particular circumstances of this record, considering the nature of Mitchell's illness and this rather new and radical procedure with its rather high incidence of serious and permanent injuries not connected with the illness, the doctors owed their patient in possession of his faculties the duty to inform him generally of the possible serious collateral hazards; and in the detailed circumstances there was a submissible fact issue of whether the doctors were negligent in failing to inform him of the dangers of shock therapy.

A comparable situation was involved in an English case, Bolam v. Friern Hospital, [1957] 2

All E.R. 118. The issue considered was whether a psychiatrist was under a duty to warn of the risks involved in electroshock therapy. In 1954, the plaintiff, John Bolam, who was suffering from a depressive type of mental illness, was advised by a psychiatrist attached to the defendant hospital to undergo electroshock therapy. He signed a form of consent to the treatment but was not warned of the risk of fracture involved. In the course of treatment, the plaintiff sustained severe physical injuries consisting in the dislocation of both hip joints with fractures of the pelvis on each side.

No relaxant drugs were used, although the use of relaxant drugs would admittedly have excluded the risk of fracture. At the trial there was testimony that, among those skilled in electroshock therapy, there were two bodies of opinion, one that favored the use of relaxant drugs as a general practice and the other, thinking that the use of these drugs was attended by mortality risks, that confined the use of relaxant drugs to cases in which there were particular reasons for their use. The plaintiff's case was not such a case. Similarly, there was testimony that different views were held among competent professional men on the question of whether a patient should be warned about the risk of fracture before being treated or should be left to inquire what the risk was; and there was evidence that in cases of mental illness explanation of risk might affect the patient's decision whether to undergo the treatment. The defendant psychiatrist testified that the risk of fracture was 1 in 10,000.

In the summing-up, the court directed the jury as follows: 1. A doctor is not negligent, if he is acting in accordance with a practice accepted as proper by a responsible body of medical men skilled in that particular art, merely because there is a body of such opinion that takes a contrary view.

2. The jury might well think that when a doctor was dealing with a mentally sick man and had a strong belief that his only hope of cure was submission to electroshock therapy, the doctor could not be criticized if, believing the dangers involved in the treatment to be minimal, he did not stress them to the patient.

3. In order to recover damages for failure to give warning, the plaintiff must show not only that the failure was negligent but also that if he had been warned he would not have consented to the treatment.

The jury returned a verdict for the defendants.

In Salgo v. Leland Stanford, Etc., Board of Trustees, 154 Cal. App. 2d 560, 578, 317 P.2d 170, 181 (1957), the court said:

... A physician violates his duty to his patient and subjects himself to liability if he withholds any facts which are necessary to form the basis of an intelligent consent by the patient to the proposed treatment. Likewise the physician may not minimize the known dangers of a procedure or operation in order to induce his patient's consent. At the same time, the physician must place the welfare of his patient above all else and this very fact places him in a position in which he sometimes must choose

between two alternative courses of action. One is to explain to the patient every risk attendant upon any surgical procedure or operation, no matter how remote; this may well result in alarming a patient who is already unduly apprehensive and who may as a result refuse to undertake surgery in which there is in fact minimal risk; it may also result in actually increasing the risks by reason of the physiological results of the apprehension itself. The other is to recognize that each patient presents a separate problem, that the patient's mental and emotional condition is important and in certain cases may be crucial, and that in discussing the element of risk a certain amount of discretion must be employed consistent with the full disclosure of facts necessary to an informed consent...

Failure to explain was not a basis for liability in a North Carolina case, Hunt v. Bradshaw, 242 N.C. 517, 88 N.E. 2d 762 (1955). A piece of metal lodged in the plaintiff's neck but caused him no difficulty. After x-ray examination, the defendant doctor advised the patient that the metal should be removed because its movement would endanger his heart. Answering the patient's question whether the operation was a serious one, the doctor said that there was nothing to it, that it was very simple. Actually, the location of the metal created a serious surgical risk, in that if the blood supply to a certain bundle of nerves was stopped, a partial paralysis could result. This happened in the course of the operation and the patient brought suit alleging, among other charges of negligence, that the doctor was negligent in failing to explain the risks involved. On appeal, the court affirmed the nonsuit, stating:

Upon Dr. Bradshaw's advice the operation was decided upon. It is understandable the surgeon wanted to reassure the patient so that he would not go to the operating room unduly apprehensive. Failure to explain the risks involved, therefore, may be considered a mistake on the part of the surgeon, but under the facts cannot be deemed such want of ordinary care as to import liability. Of course, it seems hard to the patient in apparent good health that he should be advised to undergo an operation, and upon regaining consciousness finds that he has lost the use of an arm for the remainder of his life. Infallibility in human beings is not attainable. The law recognizes, and we think properly so, that the surgeon's hand, with its skill and training is, after all, a human hand, guided by a human brain in a procedure in which the margin between safety and danger sometimes measures little more than the thickness of a sheet of paper. The plaintiff's case fails because of lack of expert testimony that the defendant failed, either to exercise due care in the operation, or to use his best judgment in advising it.

In a Delaware case, Fischer v. Wilmington General Hospital, 149 A.2d 749 (1959), the plaintiff was given a pint of blood in connection with a dilation and curettage and later developed jaundice hepatitis. She alleged that the defendant hospital was negligent in failing to warn her of the risk of contracting hepatitis. The court said:

Considering the frequency of the use of transfusions, the nature and extent of the risk involved in comparison with the alternative risk, the possible detrimental effect of advising patients of the risk and the general practice in the local medical profession not to so advise patients, the court feels impelled to conclude that the defendant did not have a legal duty to plaintiff to advise her in advance that hepatitis might be communicated.

An English case considered the matter of informing the patient as involving a moral but not a legal

issue. In *Hatcher v. Black*,* Mrs. Hatcher, who used her voice in radio broadcasting work, was operated on for a toxic goiter. Prior to the operation she was informed of the possible alternatives of a partial thyroidectomy or medical treatment, and advised that operative treatment was the better course.

When Mrs. Hatcher asked the surgeon on the night before the operation whether there was any risk to her voice, he told her that there was none. After the operation she found her voice was not strong. On examination it was found that her left vocal cord was paralyzed. Apparently the laryngeal nerve was damaged in the operation. Mrs. Hatcher alleged in her complaint that had she known there was any risk she would have chosen medical treatment, not operation.

In his summing-up to the jury, the judge of the Queen's Bench Division said:

[The surgeon] had admitted that on the evening before the operation he had told Mrs. Hatcher that there was no risk to her voice when he knew that there was some slight risk; but that he did it for her own good because it was of vital importance that she should not worry. He told a lie; but he did it because in the circumstances it was justifiable. If that were a court of morals that would raise a nice question on which moralists and theologians had differed for centuries. That, however, was not a court of morals, and the law left the question to the conscience of the doctor himself—though if doctors had too easy a conscience on this matter they might in time lose the confidence of the patient which was the basis of all good medicine.

The jury returned a verdict for the defendants.

The holdings in the recent cases involving alleged lack of consent may make the physician a frequent target for malpractice claims whenever a bad result occurs. Since the gist of the action does not involve negligent treatment but negligence in failing to explain the hazards to the patient, the claim of alleged lack of informed consent may become attractive to those attorneys who seek new "theories" of liability against physicians. Under the circumstances, the physician must be prepared to prove in court that he explained the risks involved to the patient whenever surgical, therapeutic or diagnostic procedures involve more than the hazards which the patient might normally expect. The physician's best protection is to inform the patient fully regarding any unusual risks that may be involved and to insist upon a consent in writing in which the patient acknowledges this explanation.

Based on the rules discussed in the cases reviewed by Mr. Hirsh, the following guides are recommended for physicians in order that they might prove in any given case that they furnished the information to the patient which he needed to have in order to give a valid consent.

- 1. A physician may not *minimize* or affirmatively *misrepresent* known *risks* to *induce* a patient to consent to an operation or treatment.
 - 2. The duty of a physician is to make such dis-

^{*(}a) Eddy J. P.: Professional Negligence, London: Stevens & Sons, Ltd., 1955. (b) Case report, Brit. Med. J., 2:105-106, July 10, 1954.

closures as a reasonable medical practitioner would make under the same or similar circumstances,

- (a) Such disclosures should include the commonly known dangers which a patient cannot be expected to know.
- (b) Such disclosures should include the significant or possibly serious or more probable consequences inherent in the operation or treatment, or collateral hazards.

In order to help eliminate misunderstandings and to guard against the frailness of human memory, it is suggested that in dangerous, complicated and unusual procedures a written consent form be obtained by the physician from the patient. (As an appendix to this article, there will be found a suggested consent form which covers the essential elements of an informed consent alluded to by the courts.)

The attending physician should obtain from the patient, parent or guardian (except in unusual situations such as an unconscious person), consent to operate or treat. Most hospitals require that patients on admission sign a statement that they have given their consent to the attending physician to perform a treatment or an operation. This is a record required by the hospital. It is not a physician's record of the consent he obtained nor is it a substitute for such a consent. In emergency situations where the patient is unconscious and where more extensive surgery was necessarily done than contemplated, it is recommended that the facts be explained to the patient when he is sufficiently recovered to understand and a notation be made in the hospital's and physician's records of the discussion and the patient's ratification.

CONSENT TO OPERATION, ANESTHETICS, AND OTHER MEDICAL SERVICES

A.M.

Date	TimeP,N
. I authorize the performance upon	
(Myse	lf or name of patient
of the following operation	
(State nature	and extent of operation
to be performed under the direction	of Dr.

- 2. I consent to the performance of operations and procedures in addition to or different from those now contemplated, whether or not arising from presently unforeseen conditions, which the above-named doctor or his associates or assistants may consider necessary or advisable in the course of the operation.
- I consent to the administration of such anesthetics as may be considered necessary or advisable by the physician responsible for this service, with the exception of

(State "none," "spinal anesthesia," etc.)

- 4. I consent to the photographing or televising of the operations or procedures to be performed, including any appropriate portions of my body, for medical, scientific or educational purposes, provided my identity is not revealed by the pictures or by descriptive texts accompanying them.
- 5. For the purpose of advancing medical education, I consent to the admittance of observers to the operating room.
- 6. I consent to the disposal by hospital authorities of any tissues or parts which may be removed.
- I am aware that sterility may result from this operation.
 I know that a sterile person is incapable of becoming a parent.
- 8. The nature and purpose of the operation, possible alternative methods of treatment, the risks involved, and the possibility of complications have been fully explained to me. No guarantee or assurance has been given by anyone as to the results that may be obtained.

(CROSS OUT PARAGRAPHS ABOVE WHICH DO NOT APPLY)

Sign	ed							
		or	person	authorized	to	consent	for	patient)
Witness							_	

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Letters to the Editor ...

An Item of Socialism

ONE GETS TIRED of reading so much in our publications about the threat of socialized medicine. And from time to time we receive invitations to join this or that organization for the purpose of combating socialized medicine. At the same time, we are accused by the lay people of being a selfish, mercenary group. It seems to me we give them reason for feeling so, by harping continually to them about the one particular part of the advancing socializing process which particularly affects us as doctors.

Isn't it obvious that if we are to have (more) socialism we, as doctors, certainly will be social-

ized, along with everyone and everything else? Conversely, if we can prevent *socialism* we will not have socialized medicine.

Therefore, why don't we stop expending our efforts as a small, ineffective, and possibly unliked group, and instead of speaking as doctors against socialized medicine, speak out as Americans against socialism, preferably adding our voices to those of other patriotic Americans? It seems to me that our present methods, besides being costly and ineffective, defeat our purpose and may be partially responsible for our "sagging image."

ARTHUR A. MICKEL, M.D.

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A.M.A. Policies

Some Questions Raised, and Some Answers

Because it makes good use of a forum for physicians, bringing light where light can be most helpful, the following exchange of letters is reprinted from the September 1961, issue of the Bulletin of the Alameda-Contra Costa Medical Association.

SOME QUESTIONS

Dr. David J. Dugan President, Alameda-Contra Costa Medical Association

Dear Dr. Dugan: I have wanted to write to you for some time to express my concern to you and the other officials of the A.C.C.M.A. about what I feel to be the continued negativistic and destructive approach that the American Medical Association is taking toward the important medical and social issues of our time. Among those issues that concern me are the A.M.A.'s past opposition to group practice of medicine, their opposition to some aspects of social security, their present opposition to medical care for the aged under social security, their handling of foreign doctors, the opposition to full acceptance of osteopaths, the backing of the oral polio vaccine at the expense of the Salk injections, and numerous other stands they have taken. I feel that the A.M.A. policies are established by a small oligarchy of salaried emplovees and unrepresentative political physicians and I do not believe that these policies reflect the will of the majority of American physicians, If these policies of the A.M.A. are allowed to continue unchecked, I think they will paradoxically result in the very "socialized medicine," which the A.M.A. purports to oppose.

The California Medical Association has been a little more forward-looking than the A.M.A. and I think our own county medical society has been much more progressive and responsible in its actions. However, much more needs to be accomplished even though we are faced with the usual problems of apathy and lack of participation that exist in organizations.

Among the positive and responsible things which we as physicians should be doing are: Improving medical education by broadening the curriculum, developing more medical schools and admitting more students without regard to arbitrary quotas; making high quality medical (including psychiatric) care available to all at a cost they can manage; improving democratic procedures within medical associations in order to give voice to the average physician and prevent a self-perpetuating hierarchy from controlling official medical policies; seeking

out and disciplining questionable and unethical practices such as overcharging or needless hospitalization; strongly opposing quackery as in the chiropractic profession, faith healing, etc.; and rapidly accelerating reasonable and comprehensive voluntary health insurance plans so that government intervention will not be necessary.

I respectfully request that the A.C.C.M.A. Council institute procedures to amend our present by-laws so that membership in the C.M.A. and A.M.A. will be voluntary rather than compulsory. In this connection I would be interested in a summary of past legal rulings from courts on this requirement of concurrent membership and also on the question of hospitals requiring medical society membership for staff privileges. My interest here is in providing free choice to the individual physician in as many matters as possible,

I also request that the membership of the A.C.C.M.A. be polled on: (I) their support or disapproval of Medical Care for the Aged under Social Security; (2) their support or disapproval of A.M.A. policies in general and (3) their support or disapproval of the above-mentioned proposed amendment to the bylaws.

I raise these questions and make these requests out of a serious desire to constructively improve the practice of medicine and quality of medical care as well as a wish to reawaken the traditionally high standards and ethics of the medical profession. Medicine cannot stand still if it is to retain its traditional position of leadership and esteem in the community.

Sincerely,
(Name Withheld)

SOME ANSWERS

Dear Doctor:

At its August meeting, the Council of the A.C.C.M.A. heard and discussed your letter of July 26th, in which you comment critically on the attitudes and activities of the American Medical Association. The Council asked me to reply to your letter and to describe to you the Council's views and those of some of its members who also serve in capacities in the California Medical Association and the American Medical Association.

You mention the "A.M.A.'s past opposition to group practice of medicine." The A.M.A. has not opposed group medicine. In fact, a number of A.M.A. presidents, including its present president, have been participants in or founders of their own group practices. What A.M.A. has objected to is "contract practice" in which a patient makes a contract with a group of doctors which he cannot break during an illness without financial penalty. The

objection is that the patient's right to change his source of medical care at any time for any reason should not be compromised. It is the feeling of organized medicine that this right of the patient results in medical progress and the greatest possible ultimate satisfaction and the best medicine to the most patients under the largest variety of circumstances.

You mention A.M.A.'s opposition to some aspects of social security and its present opposition to medical care for the aged under social security. The A.M.A. in the past has opposed some changes in the social security law which had to do with medicine. We are unaware of any opposition that was not based on inadequacies and impracticalities in those proposals which could be best known by medicine and which organized medicine has a citizen's duty, as well as a duty to its members, to express. The A.M.A. House of Delegates has expressed itself in opposition to social security for physicians. Since the House of Delegates is elected from state medical association officialdom who, in turn, are generally selected by county medical association members, I think that we can assume that this expression was democratically arrived at. As you know, there has been an honest difference of opinion in the House of Delegates on this subject. We would suggest that your views be communicated to the A.M.A. delegates from this state, preferably those who are elected from Alameda and Contra Costa Counties. Our own county society has taken two polls of its membership on this question and both resulted in a slight majority in favor of social security for doctors. Our delegates to A.M.A. and C.M.A. were, of course, aware of these results.

As to the A.M.A.'s position on medical care for the aged under social security, we think there are many objections to it from economic, medical, political and administrative points of view. We have material which discusses all these points of view, and which has been and is available to you. To go into this question in this letter at the length it deserves would be difficult, and I would refer you instead to some of this material. If you read it conscientiously, your own views may be moderated and you will recognize at least some validity in the A.M.A.'s point of view.

You mention the A.M.A.'s "handling of foreign doctors." By this we presume that you feel A.M.A. has been too restrictive in its welcome to foreign doctors. It is our feeling, on the contrary, that the A.M.A. has been guided by one consideration in its attitude toward foreign doctors: the protection of the quality of medical care delivered in the United States. In opposition to your opinion, evidence exists that A.M.A. and licensing bodies have not followed policy sufficiently restrictive to protect

the public adequately from poorly trained doctors from foreign lands. Furthermore, if you have traveled abroad and made investigations into the subject, you will know that no country in the world is as liberal as our states in issuing licenses to foreign doctors. You will probably also agree that few countries provide the quality of medical training American medical students receive.

Because of its brevity, I am unable to comment specifically on your objection to the A.M.A.'s "opposition to full acceptance of osteopaths." The A.M.A.'s last action on this problem was in essence to relegate it to local decision. In our opinion there could be no other action, since osteopaths differ widely, from state to state, in the scope of their licenses, their numbers and their training and abilities. In California, too, there was no "full acceptance" of osteopaths because not all osteopaths are licensed or trained to practice medicine and surgery. It is our opinion that over the years A.M.A. has been essentially right in its attitudes toward osteopathy, and that these attitudes have gradually changed and continued to change as osteopathy changes.

You mention the A.M.A.'s "backing of oral polio vaccine at the expense of the Salk injections." You imply that there was some nonmedical ulterior motive in such a sponsorship, and we cannot imagine what that would be. Few of us are cynical enough about the A.M.A. to believe that it would wilfully advocate a medical course of action which, from the point of view of the patient's welfare, would be less desirable than another available course of action.

You mention that "A.M.A. policies are established by a small oligarchy of salaried employees and unrepresentative political physicians." Most doctors acquainted with the growing problems that beset medicine at all levels recognize the need to employ lay people with varying skills to assist them in handling these problems in an organized way. Although we are sometimes fortunate and sometimes unfortunate in our choice of these people. I am sure that the vast majority of them are skilled, sincere, and even dedicated in their desire to serve medicine. The majority of them also are careful to be outspoken and to involve themselves in all matters in in which they legitimately should, and equally careful to avoid involving themselves in questions and decisions which can and should be made only by medical doctors. If the physicians who represent you are "unrepresentative" and "political," they are so by default of the informed interest, participation and involvement of the general membership, but I do not believe that this is true. Few problems of medicine are simple ones, and it is interesting to see how a little practical experience with them

changes the sometimes oversimple solutions of those who have not been directly exposed to the facts,

You mention that our organization should be improving medical education, developing more medical schools, and "admitting more students." It is difficult to find a subject in which greater interest has been shown in the past fifteen years by A.M.A., C.M.A. and the county societies, including our own. The California Medical Association imposes an annual \$10.00 contribution on each of its members for the support of medical schools. As far as we know, no other organizations of professional people so contribute. A.M.A.'s publications, pamphlets and the A.M.A. Journal have been concerned over the past five or ten years with the decreasing pool of applicants for medical schools and with the financial plight of medical schools and students, and have communicated this concern to the lay press. Our own county medical society annually provides two \$500.00 scholarships for students in Alameda and Contra Costa Counties. Part of the A.M.A.'s forthcoming dues raise will probably be allocated to the provision of similar scholarships on a national basis. I am sure suggestions for additional activity along these lines would be welcome,

You mention that we should work to make high quality medical care, including psychiatric care, available to all at a cost they can manage. At every level of medicine-county, state and nationalconsultations are constantly being carried on between labor unions, health and welfare plans, insurance carriers, government agencies, employers and individuals to assist them in finding and purchasing and providing the kind of benefits through insurance which doctors know will produce the most for the patient at the least cost. Hardly a month goes by in which the committees, officers and staffs of this medical society are not engaged in such talks: two were held last month, one more is scheduled this month, and when the vacation months are past we can expect to see the usual increase in this kind of activity. Your own county society was one of the pioneers in this function, and we believe began to set a pattern for organized medicine in the United States seven or eight years ago, Also, you are apparently unaware of the consultation provided at every level of medicine to agencies such as the Federal Civil Service, Department of Defense, Department of Health, Education and Welfare, California and County Social Welfare Departments, County Boards of Supervisors, County and State Health Officers, the Veterans Administration and others which will occur to you. Are you aware also of the A.M.A.'s Commission on Medical Care Plans, the C.M.A.'s Bureau of Research and Planning, the C.M.A.'s "Socio-Economic" library, the C.M.A.'s Medical Services Commission and the committees under it, and the A.C.C.M.A.'s Medical Services Committee, which produced the prototype of the Relative Value Survey which has begun to spread as a significant medical-economic contribution throughout the United States? The lay press has largely disregarded these activities, although they make the really significant news in medicine; it is our feeling that they disregard this real news because it is complicated and undramatic. However, these activities are constantly and at length reported in the A.M.A., C.M.A. and A.C.C.M.A. journals.

Your own society also pioneered in the function of eliminating the abuses which occur at the hands of a tiny minority of doctors, but which discredit all doctors. This, too, is now considered a necessary and productive function of medical societies everywhere. Let me assure you, however, that it is not a simple problem and that it requires personal risk, expenditure of time and the exercise of care and judgment by the committee members charged with this responsibility.

You requested that we institute procedures so that membership in the C.M.A. and A.M.A. would be voluntary rather than compulsory. The Council, unanimously, considers such a proposal unwise. New York State has recently adopted this requirement because of the clear demonstration of the California delegation's influence in the A.M.A.'s House. Those other states who do not have this requirement will, it is hoped, soon emulate New York. We hope this because medicine has never suffered as many onslaughts from as many sources as it has in the past five or six years. In such a climate, to take an action which would tend to disintegrate whatever organization we now possess, resembles disarming our army in midbattle. It would be wiser to maintain the integrity of the organization while interested members, who have dissatisfactions with it, work diligently for the changes they desire. I can assure you that the officers of every medical organization are exquisitely sensitive to the opinions of any doctor who will express himself. In spite of what you may have read in the papers, I have yet to see any kind of medical association reprisal taken against a doctor who has expressed himself in opposition to the officers of his organization.

You ask for a summary of legal rulings on the requirement of concurrent membership. Without giving specific cases, we can inform you that the courts consider medical organizations as voluntary groups and do not interfere with their rules and administration unless they violate public policy or fail to observe due process. Hospitals requiring medical society membership for staff privileges do so with no advice from this county society, Cali-

fornia Medical Association or the American Medical Association. On the contrary, hospital staffs have been repeatedly advised by C.M.A. and A.C.C.M.A. that they should not make hospital staff membership contingent upon membership in the medical society, but should instead evaluate each applicant's suitability for staff membership on other criteria also, chief among which are his competence and training.

You also request that the membership of the A.C.C.M.A. be polled on their support or disapproval of medical care for the aged under social security. The Council does not feel that such a referendum would be either necessary or helpful for two reasons: (1) Yours is the first expressed objection the Council has seen or heard from any member to the A.M.A.'s attitude toward social security medical care for persons over age 65. The Council must presume from this that those who object to A.M.A.'s attitude are a small minority, and that such a referendum would merely substantiate A.M.A.'s attitude. (2) Regardless of its result, the mere taking of such a referendum by a medical association such as ours would add to A.M.A.'s difficulties in maintaining its point of view in Congress; a point of view which appears to the Council to be gaining favor there. Organizationally, the action you suggest would afford us nothing to gain and much to lose.

You ask also for a poll on membership support or disapproval of "A.M.A. policies in general." The Council feels such a poll would be impossible to take, and that any results coming from it would be unusable because of its lack of specificity and because of the difficulty of discussing all policy questions in which A.M.A. represents medical opinion. The Council also feels that a referendum on an amendment to the C.M.A. By-Laws to delete the requirement of C.M.A. and A.M.A. membership would be purposeless, since C.M.A. By-Laws must be amended by the C.M.A. House of Delegates. Members who feel that such membership should not be compulsory should seek to persuade A.C.C.M.A. delegates to the C.M.A. Such delegates are uninstructed and vote their own convictions as individuals. Their names appear on page 2 of the 1961 A.C.C.M.A. Directory. On this subject, I would emphasize once more that this Council would

consider such a move, particularly at this juncture in our history, as playing directly into the hands of the well-organized and sometimes extremely compulsory organizations among whose aims is that of bending doctors—and their patients—to their will. It is impossible to exaggerate the glee with which such news would be received among people who think they know exactly what is good for patients, exactly how you should practice medicine, and exactly how much money you should make.

It would be surprising indeed if the attacks and misinformation to which doctors and all medical organizations have been subjected over the past two decades did not result in doubts, mistrust and objections from at least some members. During that time it has seemed almost a wilful journalistic vogue to muck-rake doctors and the profession. Some of this has even been productive in motivating organized attention to some of the inequities which have existed unremedied in the profession. However, it is our feeling that all members should guard against the uncritical acceptance of what they read in the papers, or what they hear from persons whose opinions are influenced by self-interest, lack of facts or understanding, or emotional bias.

A.C.C.M.A. committee meetings and the Council meetings are at all times open to any interested member. Only two committees are exempt from this rule upon occasion: the Ethics Committee and the Medical Practice Committee. We would urge you to attend at your convenience meetings of the Council and of committees which may interest you, since it is here that the problems of medicine are discussed in practical terms and the solutions to them are arrived at by your colleagues. You may be sure that you will be welcome at any such meetings that you care to attend. The staff at the A.C.C.M.A. building will be glad to inform you of the dates and subject matter of any meetings if you will telephone them.

Thank you for your interest.

Cordially,
ALAMEDA-CONTRA COSTA
MEDICAL ASSOCIATION
DAVID J. DUGAN, M.D., President

NEWS & NOTES

NATIONAL . STATE . COUNTY

LOS ANGELES

A grant of \$512,500 for construction of a mental health research building at Pacific State Hospital, Pomona, has been announced by the National Institutes of Health of the U.S. Public Health Service.

MERCED-MARIPOSA

Dr. George W. Porter, Merced, was elected president of the Merced-Mariposa Medical Society at the annual meeting in October. He succeeds Dr. J. Neil Medefind, Dr. Zdenek Fluss was elected vice-president and Dr. Patrick J. Maloney was named secretary-treasurer.

SAN FRANCISCO

Dr. Sidney J. Shipman, a past president of the California Medical Association, has been appointed to the California State Board of Medical Examiners for a term ending January 15, 1965. He succeeds Dr. Peter V. Lee of Pasadena.

Four investigators from the University of California Medical Center in San Francisco have received the Billings bronze medal of the American Medical Association for an exhibit on their research into the role of allergic sensitivity to food in ulcerative colitis.

The research was reported by Dr. J. Alfred Rider, Dr. Hugo C. Moeller, Dr. John O. Gibbs, and Miss Joyce Swader.

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Taking office as president of the American Association of Medical Assistants at its fifth national convention, held in Reno, October 13 to 15, Lillie Woods of San Francisco called on medical assistants to "exert efforts toward creating a warm, friendly atmosphere in physicians' offices to contribute to better doctor-patient relationships essential to top quality medical care."

Nearly 500 medical assistants attended the meeting. Certification and self-improvement programs as well as changes in the constitution and by-laws were major items considered by the organization's House of Delegates.

An international symposium, "Man and Civilization: Control of the Mind—II," is to be held at the University of California Medical Center, San Francisco, January 26 to 29, 1962. Like the first such symposium, which was held in January, 1961, the 1962 meeting will be a further "multidisciplinary examination of the many factors that influence our thought." The first two days will be directed specifically to physicians and other health scientists.

Further information may be obtained from Seymour M. Farber, M.D., assistant dean in charge of continuing education in medicine and health sciences, U.C. Medical Center, San Francisco 22.

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Physician and Practice Characteristics

More than 10,500 completed questionnaires were returned to the C.M.A. Bureau of Research and Planning during the first 30 days of the survey of physician and practice characteristics, according to Dr. Gerald Shaw, chairman of the Bureau.

Calling the return to date "gratifying," Dr. Shaw urged those who have not yet responded "to do so soon" in order to achieve the broadest possible statistical base. All returns are kept "in strictest confidence," he said.

GENERAL

Over 2,500 doctors attended the 13th annual scientific assembly of the California Academy of General Practice at the Statler-Hilton in Los Angeles, October 15 to 18.

The Congress of Delegates elected John A. C. Leland, Berkeley, to the office of president-elect. Dr. Leland, who has been serving as a district director and treasurer of the Academy, will be installed as president at the 1962 Assembly.

Organization of a West Coast Allergy Society will take place Saturday, December 2, when allergists from California, Oregon and Washington gather at the Fairmont Hotel in San Francisco, according to Merle W. Moore, M.D., Portland, temporary chairman. "The new society will not supplant existing state organizations," according to the letter announcing the meeting, but "will bring together members for a yearly study and evaluation of allergy problems indigenous to the western states."

Further information may be obtained from Jack Chesebro, executive secretary, West Coast Allergy Society, 1818 South Division Street, Portland, Oregon.

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Retention of some military personnel beyond the normal date of their separation from service has presented problems of eligibility proof for "Medicare" services for their dependents, according to W. D. Graham, Brigadier General, MC, USA, executive director of the Office for Dependents' Medical Care.

Dr. Graham pointed out that some dependents may apply for civilian medical care to which they are still entitled, but for which they have not yet received cards carrying the extended date of expiration. This number will not be large, he said.

Emphasizing that no claims may be processed for payment unless the dependent provides a valid ID card or statement of eligibility, Dr. Graham asks that physicians and hospitals "exercise patience and understanding during the next several months when their services are requested by dependents of these extendees." He said further that such dependents have been instructed to present "tangible evidence" to support their claims of continued eligibility.

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Physicians interested in volunteering for short-term service in foreign mission fields may obtain information from the American Medical Association Department of International Health, 535 North Dearborn Street, Chicago 10. This new department administers a program approved last June by the A.M.A. House of Delegates. Groups of physicians may make arrangements to serve on a rotating basis, each for a few weeks, to provide medical care to areas in many parts of the world that are not otherwise adequately supplied.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

- Coronary Arteriosclerosis Detection and management. Saturday, January 13. Eight hours.
- The Skin and Internal Disorders. Saturday through Monday, March 24 through March 26. Twenty-four hours
- Rheumatic Heart Disease. May, 1962. Eight hours. Dates to be announced.
- For information on courses for physicians or ancillary personnel contact: Lowell A. Rantz, M.D., associate dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

- Clinical Traineeships Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.
- Back Pain. Medical Center, Room 13-105, Saturday and Sunday, December 2 and 3. Nine hours. Fee: \$40.00.
- Basic Science Course in Ophthalmology. Beginning December 6. "Neuroanatomy and Neuro-Ophthalmology" for persons with medical degrees.*†
- Peripheral Vascular Disease. Friday and Saturday, December 15 and 16.*†
- A Clinical Postgraduate Program in Mexico. February 21 through March 1. Fee: \$100.00.
- Basic Science Course in Ophthalmology. February 28 through April 11. "Ocular Motility" for persons with medical degrees.*†
- A Clinical Postgraduate Program in Japan and Hong Kong. April 8 through 28. Fee: \$200.00.
- For information on courses for physicians or ancillary personnel contact: Thomas H. Sternberg, M.D., assistant dean for Postgraduate Medical Education, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

- Problems of Adolescence. Children's Hospital, Saturday, November 4. Seven hours. Fee: \$12.50.
- Alcohol and Civilization. Saturday through Monday, November 11 through 13. Twenty-one hours. Fee: \$25.00.
- Psychiatry in General Practice. Napa State Hospital, Saturday and Sunday, November 18 and 19. Fourteen hours. Fee: \$10.00.
- *Fees to be announced. †Hours to be announced.

- New Concepts in Hematology. Wednesday through Friday, November 29 through December 1. Eighteen hours. Fee: \$35.00.
- Diseases of the Cornea. Thursday through Saturday, December 7 through 9. Eighteen hours. Fee: \$50.00.
- Psychiatry in General Practice (Napa State Hospital). December 9 and 10, Saturday and Sunday.*†
- Surgery of the Hand and Forearm. Friday through Sunday, December 15 through 17. Twenty-one hours.*
- Skin Problems in Children. Saturday, January 13, 1962. Children's Hospital, Seven hours, Fee: \$12.50.
- A Clinic on Human Disability (Morrison Center for Rehabilitation). January 19 and 20, Friday and Saturday.*†
- Man and Civilization: Control of the Mind, Part II. Friday through Monday, January 26 through 29. Seven hours, Fee: \$25.00.
- Psychotherapy in Medical Practice (Langley Porter).
 January 31 through April 18, Wednesdays. Forty-eight hours. Fee: \$25.00.
- Evening Lectures in Medicine (Brookside Hospital, Richmond). February 1 through March 15, Thursday evenings. Twelve hours.*
- Dermatology. Friday and Saturday, February 9 and 10. Fourteen hours. Fee: \$40.00.
- Special Viewpoints in Pediatrics. Thursday through Saturday, February 15 through 17.*†
- Neuropsychiatry in General Practice. Napa State Hospital. Thursdays, February 15 through March 29.*†
- Course for Physicians in General Practice (Mount Zion Hospital), February 26 through March 2, Monday through Friday, Fee: \$85.00.†
- The Last Hundred Years Series. Fee: \$10.00. Single admission \$1.50. Thursdays, March 1 through April 19.
- Ocular Motility. Thursday through Saturday, March 8 through 10.*†
- Child Development. Saturday, March 10. Seven hours. Children's Hospital, San Francisco.*
- Diagnostic Radiology. March 14 through 18, Wednesday through Sunday. Fee: \$80.00.
- Evening Lectures in Medicine. Eden Hospital, Castro Valley. Tuesdays, March 27 through May 15.
- Humanities and the Medical Sciences. Monterey Peninsula College, Monterey. Fridays, March 30 through April 27.*†
- Water, Salts and Steroids. Thursday through Saturday. April 5 through 7.*†
- Genetics in Medicine. Friday and Saturday, May 11 and
- Proctology. Thursday and Friday, May 17 and 18. Fee: \$50.00.†
- Communication Problems Associated with Neurological Disorders. Friday and Saturday, July 6 and 7.*†
- Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Use of Radioisotopes.

 Two or three month course limited to one enrollee per month. Fee: \$350.00.
- For information on courses for physicians or ancillary personnel contact: Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

PRESBYTERIAN MEDICAL CENTER. SAN FRANCISCO

- Conference on Allergy. November 11, Saturday. Eight hours. Fee: \$25.00.
- Conference on Arthritis. December 2, Saturday. Eight hours, Fee: \$25.00.
- Conference on Proctology. January 5, Friday. Eight hours. Fee: \$25.00.
- Conference on Office Diagnosis. January 20, Saturday. Eight hours. Fee: \$25.00.
- Conference on Office Gynecology and Obstetrics. February 5, Monday. Eight hours. Fee: \$25.00.
- Conference on Eye, Ear, Nose and Throat. February 17, Saturday. Eight hours, Fee: \$25.00.
- Operable Heart Disease (Fourth Annual Conference). Friday and Saturday, March 2 and 3. Fee: \$25.00. Chairman: Frank Gerbode, M.D.
- Conference on the Hand and Foot. March 10, Saturday. Eight hours. Fee: \$25.00.
- Special Surgery of the Extremities. Saturday, March 17. Fee: \$25.00. Chairman: Donald King, M.D.
- Conference on Emergencies. March 24, Saturday. Eight hours. Fee: \$25.00.
- Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15, WEst 1-8000, Ext. 303 or 414.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

- Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.
- Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.
- Funduscopy in Internal Medicine. Tuesday evenings, November 7 through November 28, 7 to 9 p.m. Los Angeles County Hospital. Fee: \$37.50. Enrollment limited to 20.
- Review of Recent and Practical Problems in Medicine (Homecoming). Thursday and Friday, November 9 and 10, Statler Hotel, Los Angeles.*
- Symposium on Anticoagulant Therapy. Friday, November 24, Fee: \$25.00.
- Psychiatric Hospital Rounds begins December 6. 3:00 p.m. to 5:00 p.m. Weekly series of 12 conferences. Psychiatric Unit, Los Angeles County Hospital. Fee: \$25.00.
- Psychiatry in Medical Practice. January 13 and 14. Two-day intensive workshop at San Bernardino County General Hospital. Fee: \$15.00.
- Nuclear Medicine: Part I, \$50.00; Part II, eight weeks, \$350.00; Part III, 12 weeks, \$350.00. Begins January 26, 1962.
- Psychiatry in Medical Practice. Approximately February 5 and 6. Two-day intensive workshop in Phoenix, Arizona.
- Bedside Cardiology. Thursday evenings, February 8 through April 26, 1962, 7:30 to 9:30 p.m. Los Angeles County Hospital.
- Psychosomatic Medicine Case Conferences. Begins March 7. 12 case conferences. Fee: \$35.00.
- Psychiatry in Medical Practice. May, 1962. Two-day intensive workshop at San Luis Obispo County General Hospital. Fee: \$15.00.
- *Fees to be announced.

- Refresher Course to be held in Western Europe. Dates to be announced.
- Hawaii Course. Summer of 1962.
- Psychiatry Courses. Contact: Allen J. Enelow, M.D., associate clinical professor, Department of Psychiatry, 1934 Hospital Place, Los Angeles 33, CA 5-3131, Ext. 71951.
- Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

LOMA LINDA UNIVERSITY

- Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.
 - 1. Anesthesia. Six months. 250 to 300 hours, Fee: \$350.00.
 - 2. Internal Medicine. Two weeks to nine months.
 - 3. Pulmonary Diseases (can be arranged).
 - 4. Traumatology. One month, 160 hours. Fee: \$125.00.
 - 5. Urology (can be arranged).
- Refresher Courses: General Surgery, Internal Medicine, Obstetrics-Gynecology. Los Angeles Campus (White Memorial Hospital). March 11 and 12, Sunday and Monday. Contact: Alumni Association, School of Medicine, 316 No. Bailey Street, Los Angeles 33, AN 2-2173.
- Continuously: Illustrated Medical Lectures. Thirty-minute tape recordings and accompanying 35 mm. filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. Twelve or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. Contact: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.
- For information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

POSTGRADUATE INSTITUTES-1962

- Southern Counties in cooperation with University of California Los Angeles School of Medicine. Balboa Bay Club, Balboa. February 8 and 9, 1962. Chairman: Bertram L. Tesman, M.D., 1781 West Romneya Drive, Anaheim, California.
- West Coast Counties in cooperation with University of Southern California School of Medicine, Del Monte Lodge, Pebble Beach. March 8 and 9, 1962. Chairman: Joseph E. Turner, M.D., 1073 Cass Street, Monterey.
- North Coast Counties, in cooperation with Stanford University School of Medicine. Hoberg's Resort, Lake County, March 29 and 30, 1962. Chairman: Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa.
- San Joaquin Valley in cooperation with University of California San Francisco School of Medicine. Ahwahnee Hotel, Yosemite. May 3 and 4, 1962. *Chairman:* Samuel Ross, M.D., 2946 Fresno Street, Fresno.
- Sacramento Valley Counties in cooperation with Loma Linda University. Feather River Inn, Blairsden. June 21 and 22, 1962. Sherman DeVine, M.D., General Chairman, 2530 H Street, Sacramento.

AUDIO-DIGEST FOUNDATION

A nonprofit subsidiary of California Medical Association, offers a subscription series of hour-long tape recordings condensing highlights of important literature and leading national meetings. Designed to be heard in the automobile, home or office. Six different services are offered —General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, and Anesthesiology. Also, just compiled and released is a Catalog of Classics, offering panel discussions and symposia on specific subjects in all specialties. For information contact Mr. Claron L. Oakley, Editor, 619 So. Westlake Avenue, Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

NOVEMBER MEETINGS

- Los Angeles Pediatric Society (of Los Angeles County Medical Association) Annual Brennemann Lecture Series. Ambassador Hotel, Los Angeles, November 8 and 9. Contact: Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.
- PACIFIC COAST FERTILITY SOCIETY Tenth Annual Meeting, El Mirador Hotel, Palm Springs, November 9 through 12. Contact: Gregory Smith, M.D., secretary, 909 Hyde Street, San Francisco 9.
- SAN DIEGO CHAPTER, CALIFORNIA ACADEMY OF GENERAL PRACTICE Sixth Annual Meeting. November 9 through 11, Riviera Hotel, Las Vegas. Contact: George H. Burkhart, M.D., 514 Third Ave., Chula Vista.
- California Academy of General Practice Conference on Medical Audits. November 15, 10:00 a.m. to 5:00 p.m., Jack Tar Hotel, San Francisco. Contact: William W. Rogers, executive secretary, 9 First Street, San Francisco 5.
- CALIFORNIA ACADEMY OF GENERAL PRACTICE CONFERENCE ON MEDICAL AUDITS. November 16, 10:00 a.m. to 5:00 p.m., Huntington-Sheraton Hotel, Pasadena. *Contact:* William W. Rogers, executive secretary, 9 First Street San Francisco 5.
- Western Conference on Fibrinolysis. Saturday, November 18, 9:00 a.m. to 5:00 p.m., at the Sheraton-Palace Hotel, San Francisco, Advance registration is required. No registration fee. Contact: Arthur Selzer, M.D., chairman, Education Committee, Presbyterian Medical Center, Clay and Webster Streets, San Francisco 15. West 1-8000, Ext. 303 or 414.
- International College of Surgeons, Northern California Chapter, Western Regional Meeting. Monday through Thursday, November 19 through 22, Mark Hopkins Hotel, San Francisco. Contact: Miss Sara Abrams, executive secretary, 1090 Francisco Street, San Francisco 9.
- Pacific Coast Collège Health Association. November 20 through 22, Claremont Hotel, Berkeley. Contact: Henry B. Bruyn, M.D. chairman, Cowell Memorial Hospital, University of California, Berkeley 4.
- AMERICAN SOCIETY OF HEMATOLOGY Fourth Annual Meeting at the Hotel Ambassador, Los Angeles, November 27 through 29. Registration fee \$10.00 for nonmembers. Contact: John Rebuck, M.D., secretary, Henry Ford Hospital, Detroit, Michigan.
- Western Surgical Association, November 29 through December 1, St. Francis Hotel, San Francisco. Contact: Walter W. Carroll, M.D., secretary, 700 N. Michigan Ave., Chicago 11.

DECEMBER MEETINGS

- American College of Chest Physicians Seventh Annual Postgraduate Course on Diseases of the Chest, December 4 through 8, 9:00 a.m. to 5:00 p.m. daily, Statler Hilton Hotel, Los Angeles. Contact: Mr. Murray Kornfeld, executive director, 112 East Chestnut Street, Chicago 11, Illinois.
- POSTGRADUATE COURSE IN CARDIOLOGY. December 5 through 8. Institute for Cardio-Pulmonary Diseases. Scripps Clinic and Research Foundation, La Jolla, California. Contact: John Carson, M.D., associate program director, Scripps Clinic, La Jolla.

1962 MEETINGS

- Los Angeles County Heart Association Sixth Midwinter Professional Symposium, January 10, Statler Hilton Hotel, Los Angeles. Contact: Robert Stivelman, M.D., chairman, Professional Symposium Committee, Los Angeles County Heart Association, 2405 W. 8th Street, Los Angeles 57.
- CENTRAL CALIFORNIA PHYSICIANS CARDIOVASCULAR SYM-POSIUM with Fresno County Heart Association. Friday, January 19, 8:30 a.m. to 5:00 p.m. at the Fresno Elks Club. Contact: Frances Cuthbertson, executive director, Fresno County Heart Association.
- St. Joseph's Hospital Annual Medical Assembly. "Practical Consideration of Infectious Diseases." January 19 and 20, St. Joseph's Hospital Auditorium, Burbank. Contact: A. M. Heyman, M.D., 10730 Riverside Drive, North Hollwood.
- FIRST INTER-AMERICAN CONFERENCE ON CONGENITAL DEFECTS. January 22 through 24, Los Angeles. For registration contact not later than November 15, 1961: Secretariat: First Inter-American Conference on Congenital Defects, University Park Post Office, Los Angeles 7.
- AMERICAN COLLEGE OF SURGEONS Sectional Meeting. Statler-Hilton and Biltmore Hotels, Los Angeles, January 29 through February 1. *Contact*: William E. Adams, M.D., secretary, 40 E. Erie Street, Chicago 11.
- FOURTEENTH ANNUAL MIDWINTER RADIOLOGICAL CONFERENCE sponsored by Los Angeles Radiological Society, February 3 and 4, Biltmore Hotel, Los Angeles. Fee: \$25.00 includes two luncheon meetings. Banquet, Saturday evening, Biltmore Bowl, \$7.50 per person. Contact: V. G. Mikity, M.D., 2010 Wilshire Blvd., Los Angeles 57.
- CONTRA COSTA COUNTY HEART ASSOCIATION Postgraduate Course for Physicians. Eight Monday evenings beginning February 5, 8 p.m. to 10 p.m., Contra Costa County Hospital. Contact: Mrs. Loyse C. Casebolt, executive director, 2030 N. Main St., Walnut Creek.
- Tuberculosis and Health Association of California Annual Meeting. El Cortez Hotel, San Diego, February 7 through 10. Contact: Mr. Wm. Phraener, coordinator, public relations, 130 Hayes Street, San Francisco.
- AMERICAN COLLEGE OF PHYSICIANS ANNUAL SOUTHERN CALIFORNIA Regional Meeting. El Mirador Hotel, Palm Springs, February 16 through 18. Contact: George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.
- Pacific Coast Surgical Association Annual Meeting. Sheraton Hotel, Portland, Oregon, February 18 through 21. Contact: Carleton Mathewson, M.D., Presbyterian Medical Center, San Francisco.

- SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series. Evening of March 6 and all day March 7, Statler Hotel, Los Angeles. Contact: R. W. Watson, 504 So. Sierra Madre Boulevard. Pasadena.
- ANESTHESIA SECTION OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION Seventh Annual Spring Postgraduate Meeting. Statler Hilton, Los Angeles, March 10 and 11. Contact: Thomas W. McIntosh, M.D., 686 East Union Street, Pasadena.
- COLLEGE OF MEDICAL EVANGELISTS Alumni Postgraduate Convention. March 13 through 15, 1962, Ambassador Hotel, Los Angeles. *Contact*: Kenneth H. Abbott, M.D., general chairman, 316 No. Bailey Ave., Los Angeles 33.
- AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC., Biltmore Hotel, Los Angeles, March 21 through 24. Contact: Dr. Marion F. Langer, 1790 Broadway, New York 19.
- International College of Applied Nutrition Annual Convention. Huntington-Sheraton Hotel, Pasadena, March 22 and 23. Contact: Donald C. Collins, M.D., secretary, Suite 503, 7046 Hollywood Blvd., Hollywood 28.
- Los Angeles Orthopaedic Hospital and University of Southern California Extension Course: Fractures in Children. March 27 and 28, 8:30 a.m. to 5:00 p.m., Orthopaedic Hospital, 2400 South Flower Street, Los Angeles. Contact: Robert Mazet, Jr., M.D., director of research, 2400 So. Flower St., Los Angeles 7.

- AMERICAN ACADEMY OF GENERAL PRACTICE. Las Vegas, Nevada. April 6 through 13. Contact: Mr. Mac F. Cahal, executive director, Volker Blvd. at Brookside, Kansas City 12, Mo.
- CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION ANNUAL MEETING April 7 and 8, Sir Francis Drake Hotel, San Francisco. April 7: 9 a.m. to 5 p.m. April 8: 9 a.m. to 3 p.m. Contact: Helen Goldman, president, 693 Sutter Street, San Francisco.
- California Medical Association Annual Session, Fairmont Hotel, San Francisco. April 15 through 18, 1962. Contact: John Hunton, executive secretary, 693 Sutter St., San Francisco 2, or Ed Clancy, director of public relations, 2975 Wilshire Blvd., Los Angeles 5.
- PACIFIC DERMATOLOGIC ASSOCIATION, INc., Fourteenth Annual Meeting. Fairmont Hotel, San Francisco, April 18 through 21. C.M.A. Dermatological Section meeting the morning of April 18. Contact: Edward J. Ringrose, M.D., 2828 Telegraph Avenue, Berkeley 5.
- CALIFORNIA HEART ASSOCIATION ANNUAL MEETING. Rickey's Studio Inn, Palo Alto, May 18 through 20. Contact: Brian O'Connell, executive director, California Heart Association, 1370 Mission Street, San Francisco 3.
- AMERICAN PUBLIC HEALTH ASSOCIATION WESTERN BRANCH Annual meeting. Sheraton-Portland Hotel, Portland. June 4 through 8. Contact: Robert E. Mytinger, director, executive office, 693 Sutter Street, San Francisco 2.





THE PHYSICIAN'S Bookshelf

PROCEEDINGS OF THE FOURTH NATIONAL CANCER CONFERENCE—University of Minnesota, Minnesota, September 13 to 15, 1960—Sponsored by American Cancer Society, Inc., and National Cancer Institute, U. S. Public Health Service, J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 774 pages, \$9.00.

The theme of the Fourth National Cancer Conference was "Changing Concepts." In a keynote address, Shimkin requested that the panelists emphasize the importance of clinical investigation where established facts do not fit prevailing beliefs. The reviewer is unhappy to report that little heed was paid to this injunction. A notable example of this disregard for facts was the conclusion of the panel on cancer of the lung, that improvement must be sought in the earliest possible detection of lung cancer while it is still a localized lesion. Such devotion to dogma is a well nigh incredible refusal of clinicians to face facts. Guiss has shown that, in cases discovered by a mass x-ray survey in Los Angeles, the most important prognostic factor was an asymptomatic patient, but the size of the primary lesion bore no relation either to resectability or curability. Further evidence of the difference in lung cancer as between males and females was demonstrated by a significant difference in survival after resection of localized lesions-30 per cent for males, 62 per cent for females, in terms of survival for 5 years.

Some interesting observations culled from the eight panels (breast, lung, female genital tract, gastrointestinal tract, male genitourinary tract, leukemias and lymphomas, skin, head and neck) include the following. Preoperative irradiation for rectal carcinoma may provide a significant improvement in survival. Single-stage radical vulvectomy for vulvar carcinoma has produced five-year survival figures as high as 70 per cent. Extracts and concentrates from human neoplasms have been inoculated into tissue cultures and newborn hamsters and mice by Sarah Stewart of the National Cancer Institute, discoverer of the polyoma virus. In carefully controlled studies, she was unable to demonstrate oncogenic viruses in human tissue from patients with leukemia of myelogenous and lymphocytic types, both acute and chronic, melanoma, Wilms' tumor, neuroblastoma, papilloma of the tongue, a mesenchymal neoplasm and urine specimens from five cancer patients. In the therapy of lymphoblastomas, the superiority of irradiation for Hodgkin's disease was again demonstrated, while chlorambucil was favored for chronic lymphatic leukemia.

It is disturbing to learn that only 85 per cent of the squamous carcinoma of the skin is being controlled permanently, that 3,000 to 5,000 are dying of skin cancer yearly in the U. S. This is the same rate as noted in the previous decade. This evoked a cry for education of physicians in "early" diagnosis; to me it seems more likely that some part of this 15 per cent represent the biologically unresponsive cases, incurable by present means of therapy.

In survival rates the California Tumor Registry made notable contributions, including two special presentations by the supervisor, George Linden, M.P.H. Survival experience with a sample of 212,638 patient from 99 hospitals is presented in a figure at the end of the volume, comparing crude 5-year survival rates for 24 anatomic sites for types of cancer, for cases diagnosed before 1950, for males and females separately, with the same rates in cases diagnosed since 1950. The instances in which the difference is more than chance are as follows: Colon, up 7 per cent in both sexes, to 28 per cent in males and 34 per cent in females; uterine cervix and corpus, 53 per cent and 65 per cent for the latter years, or increases of +6 per cent and +5 per cent; thyroid gland, up 6 and 12 per cent, males and females; basal cell carcinoma of skin, off 9 per cent in males, and less by 5 per cent in females (to 71 and 80 per cent). The latter is difficult to explain, but something of a national disgrace.

This volume belongs in the library of anyone with more than a desultory interest in cancer therapy. The book is handsomely bound, and of the same admirable format in which the journal *Cancer* is printed.

IAN MACDONALD, M.D.

RECOGNIZING THE DEPRESSED PATIENT—With Essentials of Management and Treatment—Frank J. Ayd, Jr., M.D., Diplomate, American Board of Neurology and Psychiatry; Fellow, American Psychiatric Association; Chief of Psychiatry, Franklin Square Hospital, Baltimore, Maryland. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 138 pages, \$3.75.

As the author states, depressions are among the most common illnesses encountered by the general practitioner. Because of the great variety of presenting complaints in these conditions, depressive illnesses are not properly diagnosed in the early stages. The author has written this monograph to assist the nonpsychiatrist in the recognition of depressive illnesses. The material in this book is based upon a review of 500 cases of depressive illness and upon the author's personal experience. Among others, the chapter titles include: Physical Symptoms, Emotional Symptoms, Psychic Symptoms, Suicide and Homicide, and Treatment. The organization of each chapter into many small sections makes for ease of reading. One might quarrel with the author's tendency to ascribe etiology primarily to diencephalic misfunction. Although psychodynamic formations are minimized both in etiology and treatment, the author does display a sensitivity and concern regarding the importance of the physician-patient relationship. This little book has a practical orientation, and may be read with profit by any physician. Even experienced psychiatrists will find points of interest. Some case history material is included and a brief bibliography is appended.

RONALD S. MINTZ, M.D.

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